



Waters Requiring Supplemental Spawning and Incubation Protection For Salmonid Species

**May 2006
Publication Number 06-10-038**

*As Described in:
The Proposed Water Quality Standards for Surface Waters of the State of
Washington, Chapter 173-201A*



Printed on Recycled Paper

Waters Requiring Supplemental Spawning and Incubation Protection For Salmonid Species

Prepared by:

Sabrina Payne
Washington State Department of Ecology
Water Quality Program

May 2006
Publication Number 06-10-038



Printed on Recycled Paper

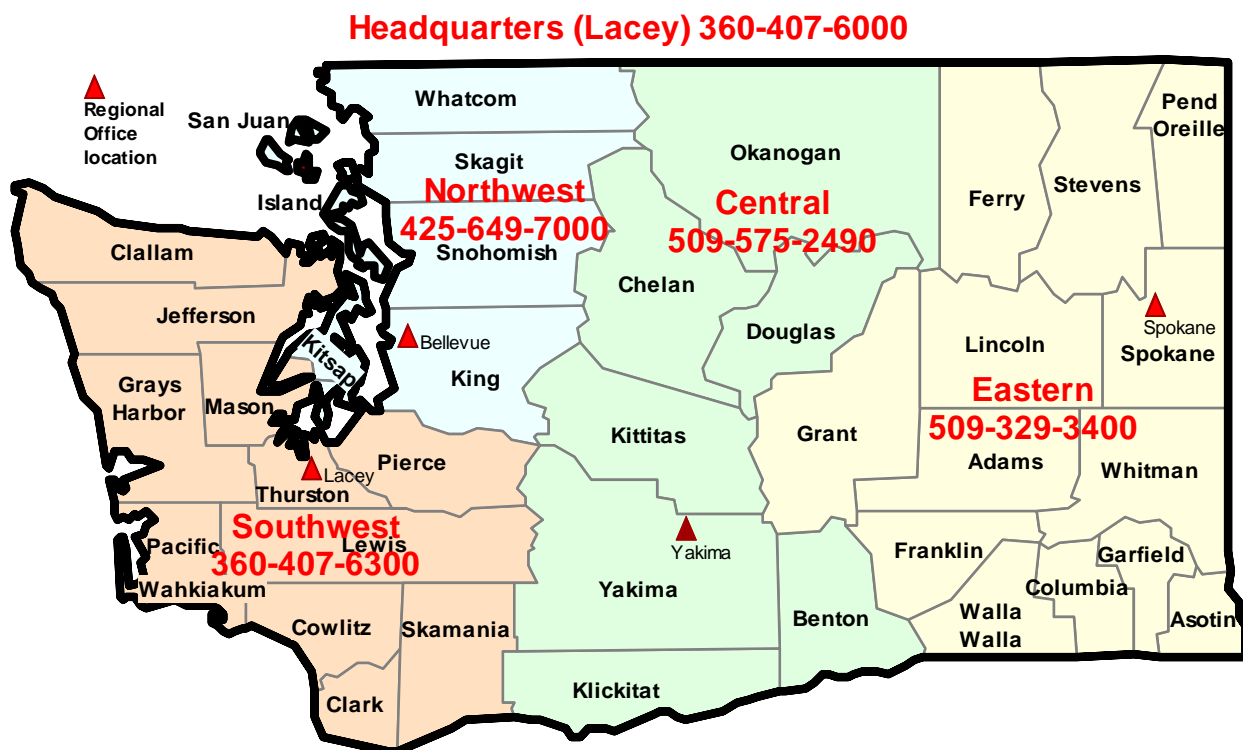
You can print or download this document from our Web site at:

<http://www.ecy.wa.gov/biblio/0610038.html>

For more information contact:

Department of Ecology
Water Quality Program
Watershed Management Section
P.O. Box 47600
Olympia, WA 98504-7600

Telephone: 360-407-6157



**Persons with a hearing loss can call 711 for Washington Relay Service.
Persons with a speech disability can call 877-833-6341.**

If you need this publication in an alternate format, please call the Water Quality Program at 360-407-6404. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Waters Requiring Supplemental Spawning and Incubation Protection for Salmonid Species

This publication is part of the Water Quality Standards for Surface Waters of the State of Washington (Chapter 173-201A WAC). The maps contained within this publication describe where and when additional temperature criteria is required to ensure protection for the incubation of salmonid species, salmon, trout, and char. Spawning information provided within the map documents should be used in conjunction with other aquatic life use information provided in Part VI of the water quality standards.

The salmonid populations targeted for the additional protection are those that have eggs and embryos developing in the stream bed in late spring to early fall. Salmonid populations which begin spawning in late fall or whose young have emerged from the stream gravels before late spring do not require added protection.

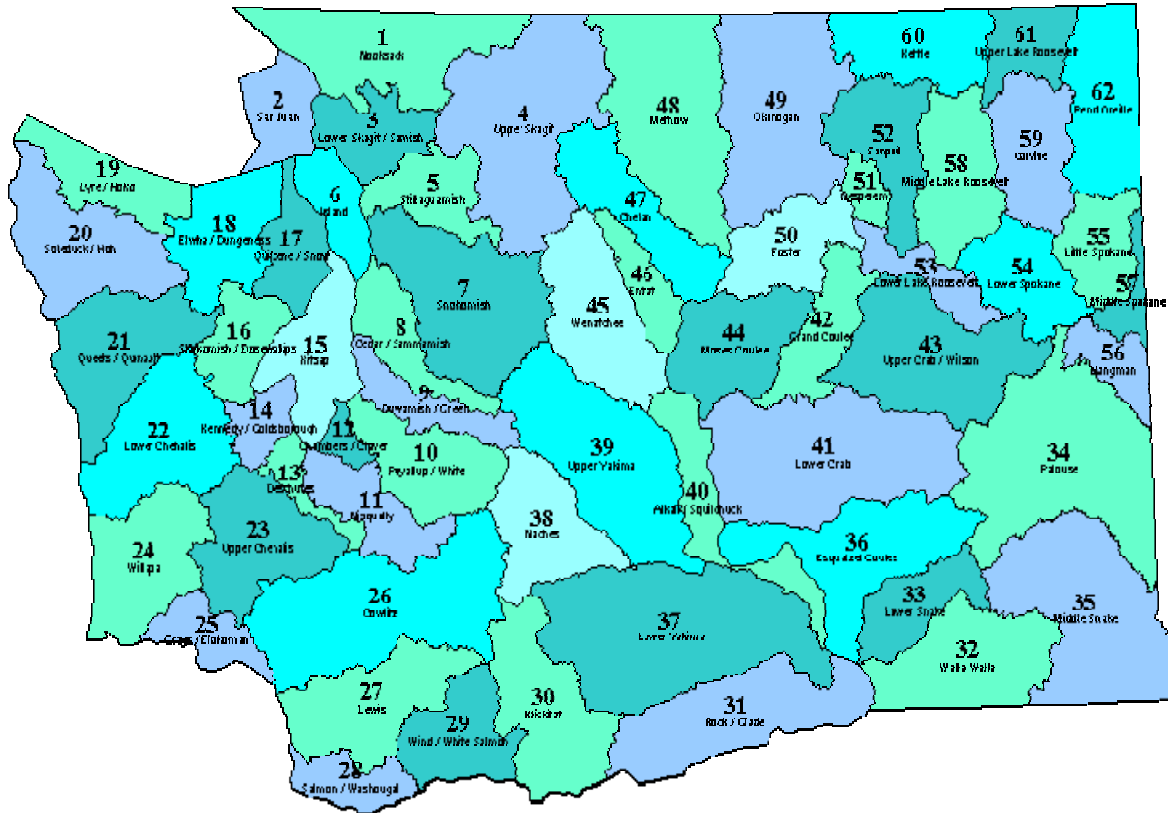
A spawning temperature of 13°C (as a 7-day average of daily maximum temperatures) is used to protect summer reproduction areas for salmon and trout, and a criterion of 9°C (as a 7-day average of daily maximum temperatures) is used to protect summer reproduction by native char species (bull trout and Dolly Varden). The following maps provide the locations where these criteria are to be applied along with the dates to which they apply.

The publication also shows where the state's 12°C (as a 7-day average of daily maximum temperatures) summer maximum criterion for protecting char has been established. In some situations the maps show a 13°C reproduction criterion occurring at the same location as a 12°C summer maximum criterion. In these cases, the more restrictive 12°C criterion remains the enforceable water quality criterion.

The state is divided into Water Resource Inventory Areas (WRIA). These large watersheds aid in water management activities. A map of each WRIA with the waters requiring more protective temperature criterion make up the body in this publication. A statewide WRIA map is located in the front of the publication.

Note: The maps in this publication are a representation of EPA's "Application of 13°C to Protect Spawning & Incubation" maps. The maps were received upon formal disapproval of the water quality standards. Adjustments were made to the legend to provide simplified wording on the temperature applications, and maps were resized to 8.5" x 11" and put into a publication for the rule revision process. If there is no map for a given WRIA, this indicates there is no summer spawning data for that particular area.

Washington State Water Resource Inventory Areas



An unlinked map indicates no summer spawning data for that particular area.

1. Nooksack	17. Quilcene/Snow	33. Lower Snake	49. Okanogan
2. San Juan	18. Elwha/Dungeness	34. Palouse	50. Foster
3. Lower Skagit/Samish	19. Lyre/Hoko	35. Middle Snake	51. Nespelem
4. Upper Skagit	20. Soleduc	36. Esquatzel Coulee	52. Sanpoil
5. Stillaguamish	21. Queets/Quinault	37. Lower Yakima	53. Lower Lake Roosevelt
6. Island	22. Lower Chehalis	38. Naches	54. Lower Spokane
7. Snohomish	23. Upper Chehalis	39. Upper Yakima	55. Little Spokane
8. Cedar/Sammamish	24. Willapa	40. Alkaki/Squillchuck	56. Hangman
9. Duwamish/Green	25. Grays/Elochoman	41. Lower Crab	57. Middle Spokane
10. Puyallup/White	26. Cowlitz	42. Grand Coulee	58. Middle Lake Roosevelt
11. Nisqually	27. Lewis	43. Upper Crab/Wilson	59. Colville
12. Chambers/Clover	28. Salmon/Washougal	44. Moses Coulee	60. Kettle
13. Deschutes	29. Wind/White Salmon	45. Wenatchee	61. Upper Lake Roosevelt
14. Kennedy/Goldsborough	30. Klickitat	46. Entiat	62. Pend Oreille
15. Kitsap	31. Rock/Glade	47. Chelan	
16. Skokomish/Dosewallips	32. Walla Walla	48. Methow	

Information on the 2003 Water Quality Standards disapproval can be found on the following websites:

<http://yosemite.epa.gov/R10/WATER.NSF/Water+Quality+Standards/WA+WQS+EPA+Disapproval>

To link directly to the data summary for basis of EPA's partial disapproval of Washington's 2003 water quality standard go to:

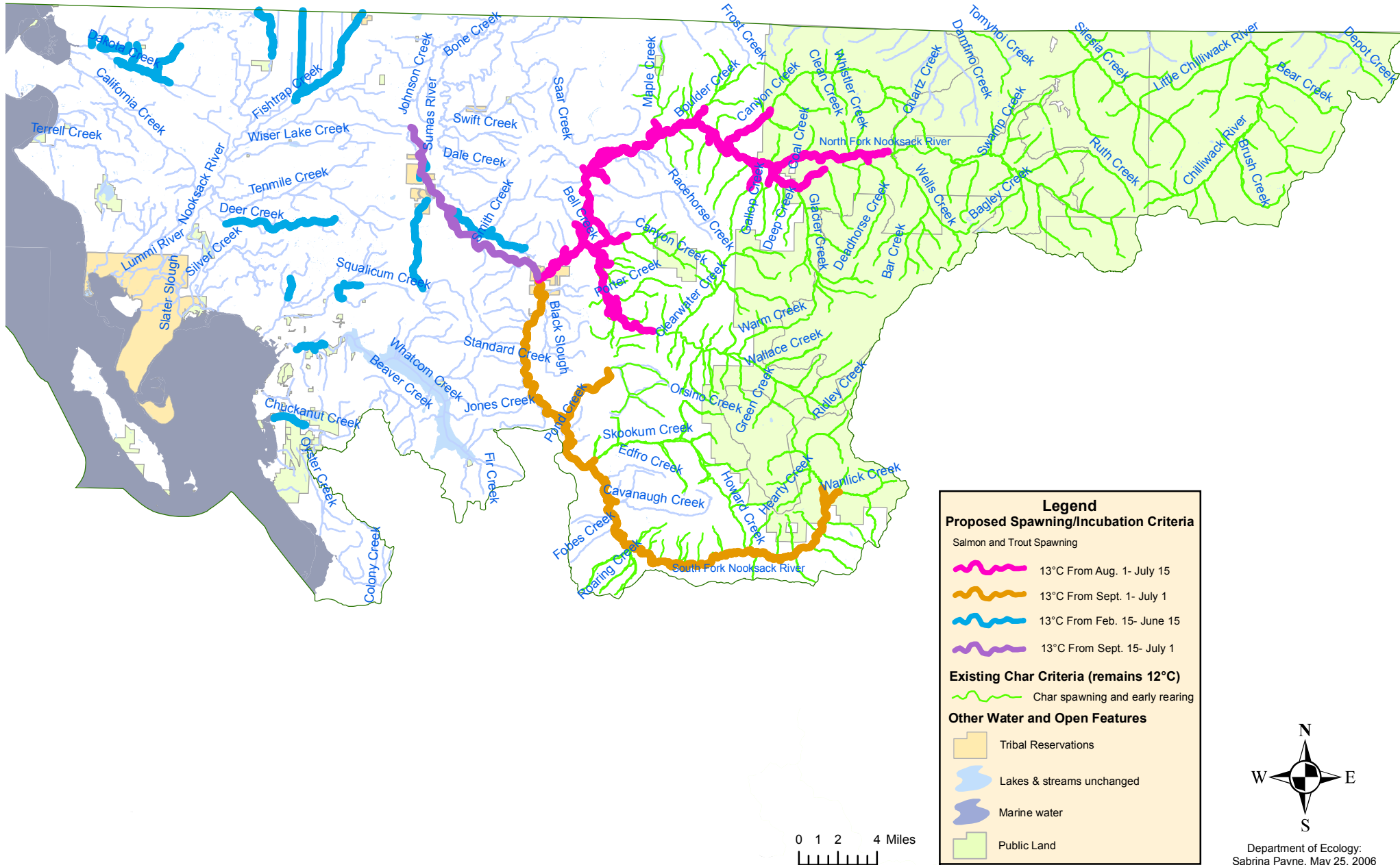
[http://yosemite.epa.gov/R10/WATER.NSF/Water+Quality+Standards/WA+WQS+EPA+Disapproval/\\$FILE/WA%20WQS%20Disapproval_Basis.pdf](http://yosemite.epa.gov/R10/WATER.NSF/Water+Quality+Standards/WA+WQS+EPA+Disapproval/$FILE/WA%20WQS%20Disapproval_Basis.pdf)

To link directly to the data summary for EPA's review of Ecology's use designations and application of spawning criteria, go to:

[http://yosemite.epa.gov/R10/WATER.NSF/Water+Quality+Standards/WA+WQS+EPA+Disapproval/\\$FILE/WA%20WQS%20Appendix%20C.pdf](http://yosemite.epa.gov/R10/WATER.NSF/Water+Quality+Standards/WA+WQS+EPA+Disapproval/$FILE/WA%20WQS%20Appendix%20C.pdf)

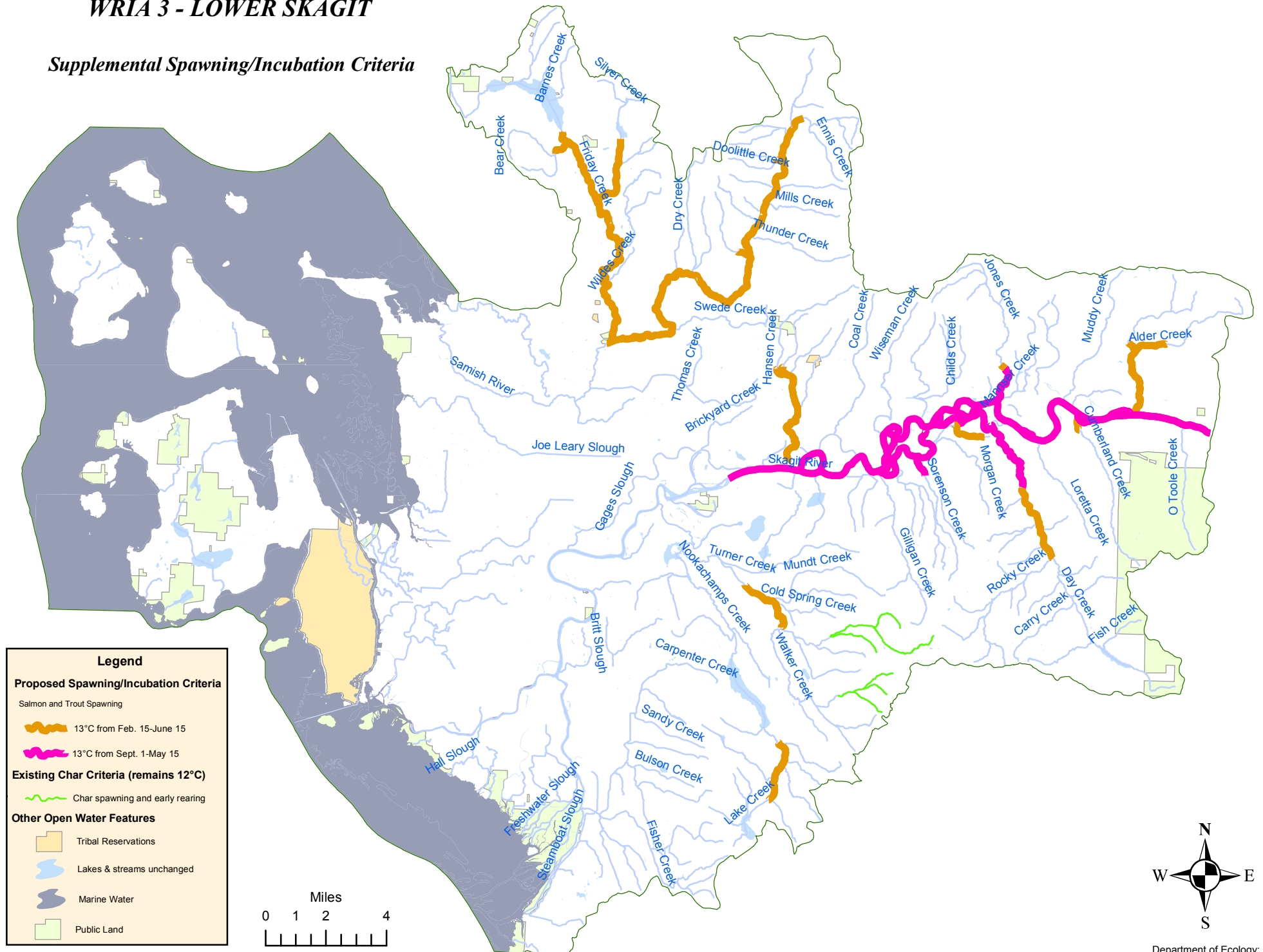
WRIA 1 NOOKSACK

Supplemental Spawning/Incubation Criteria



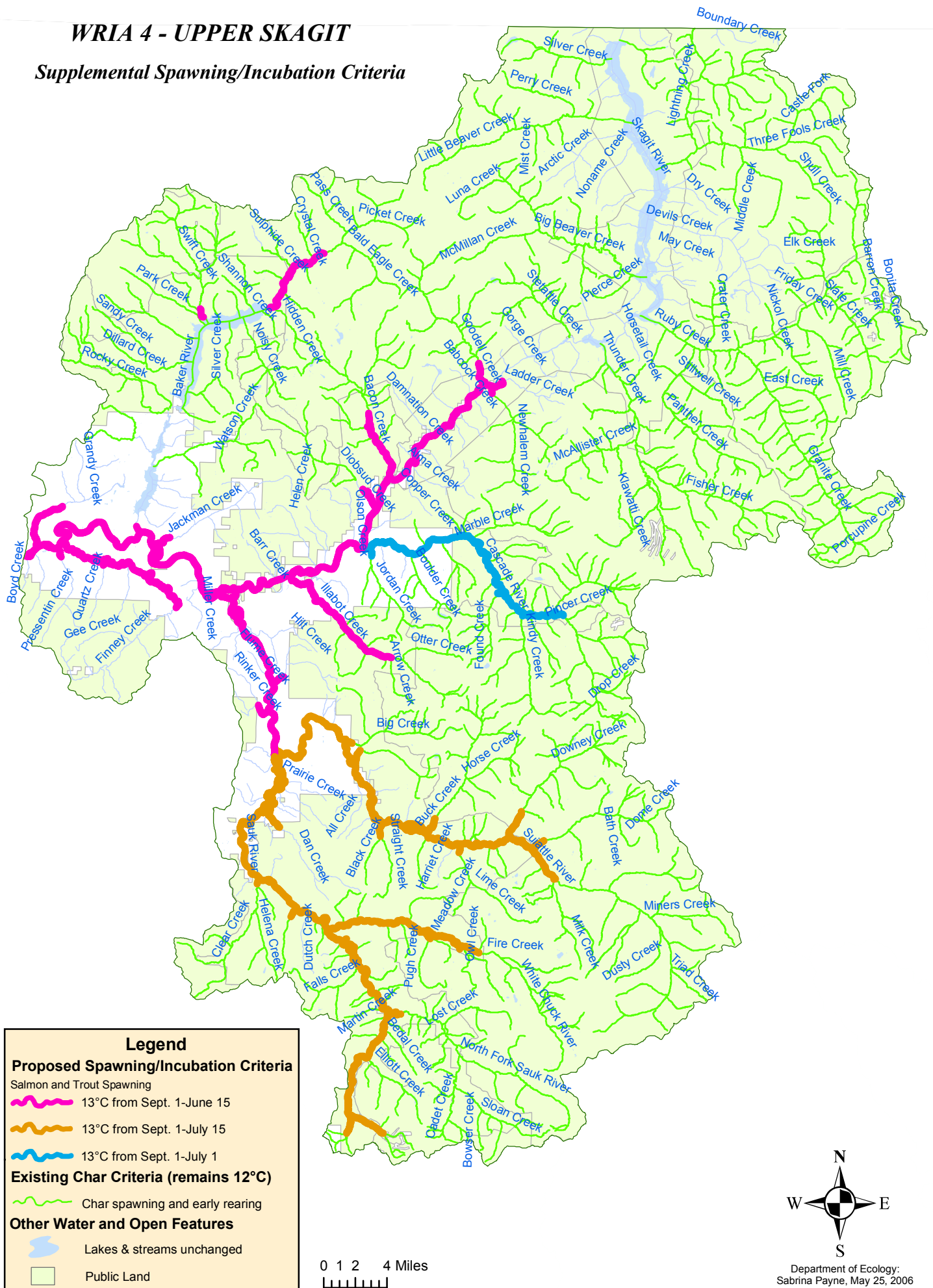
WRIA 3 - LOWER SKAGIT

Supplemental Spawning/Incubation Criteria



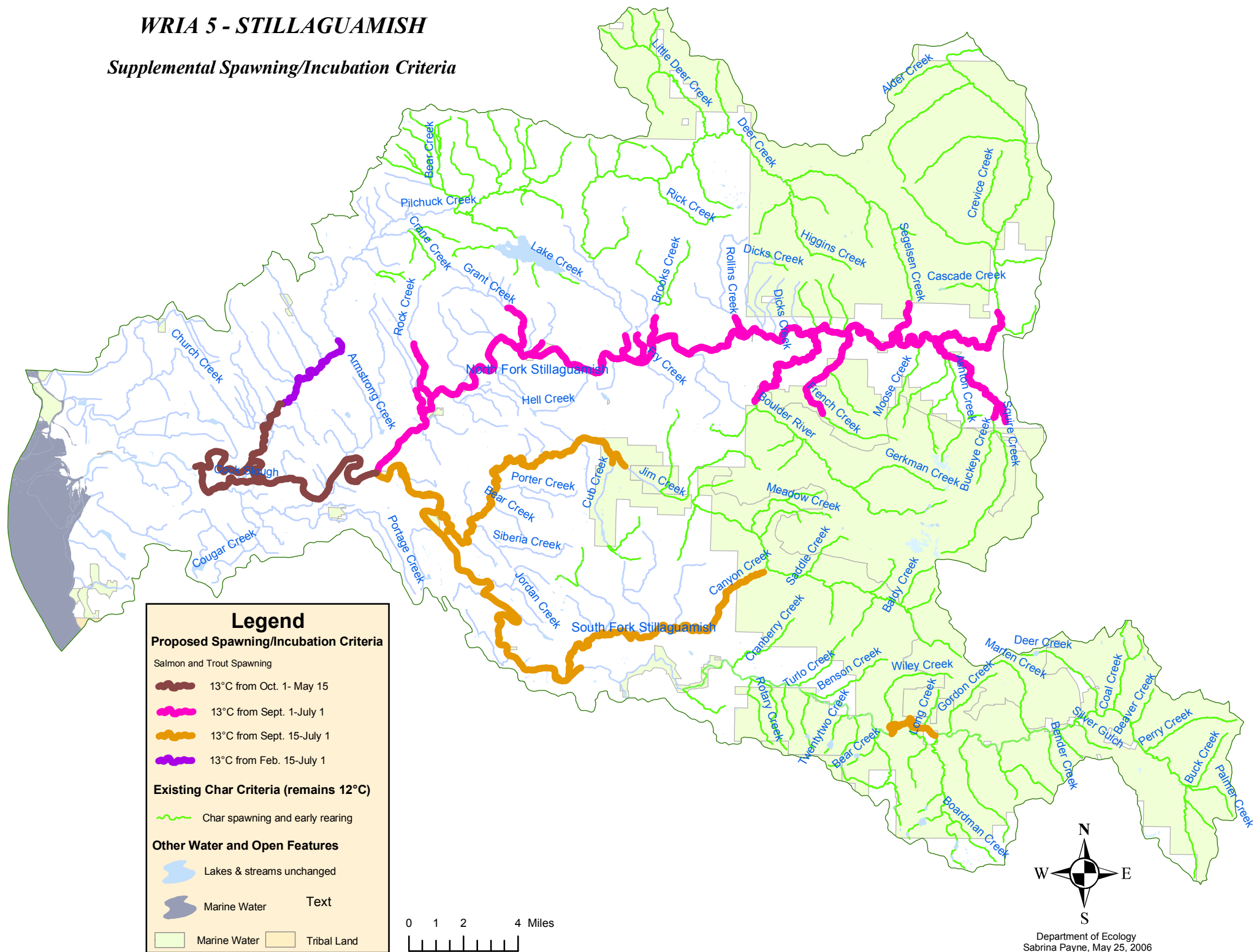
WRIA 4 - UPPER SKAGIT

Supplemental Spawning/Incubation Criteria



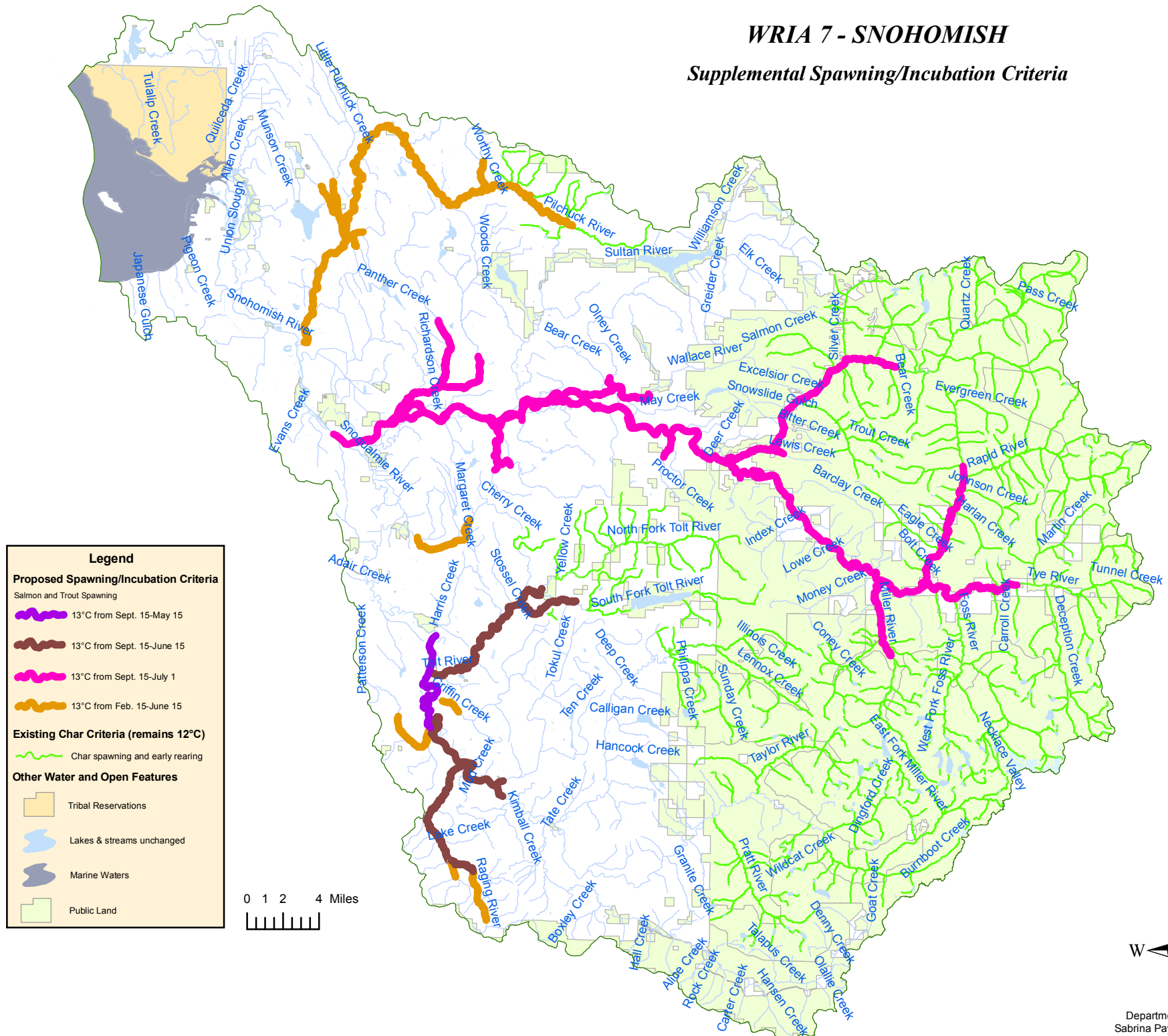
WRIA 5 - STILLAGUAMISH

Supplemental Spawning/Incubation Criteria



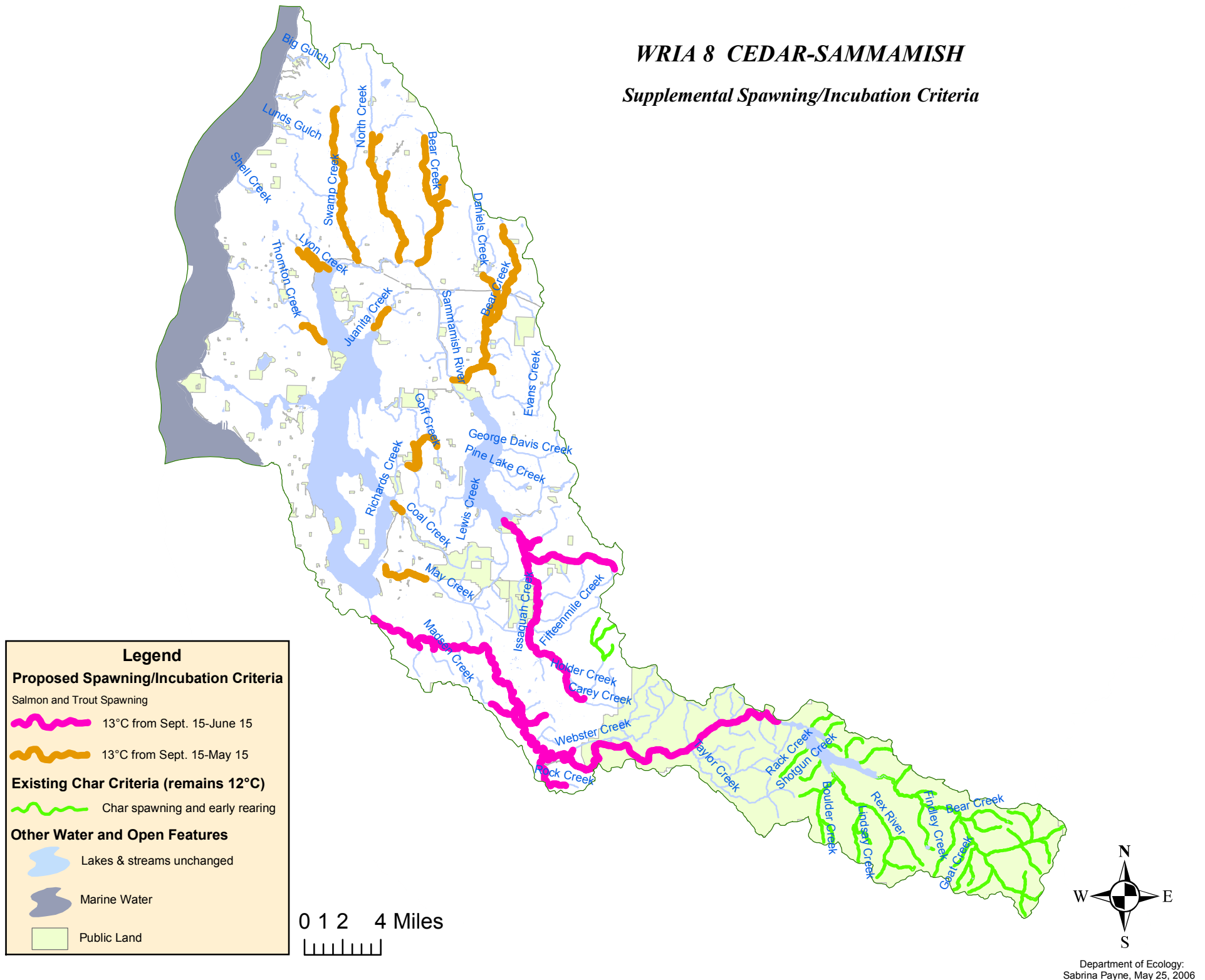
WRIA 7 - SNOHOMISH

Supplemental Spawning/Incubation Criteria



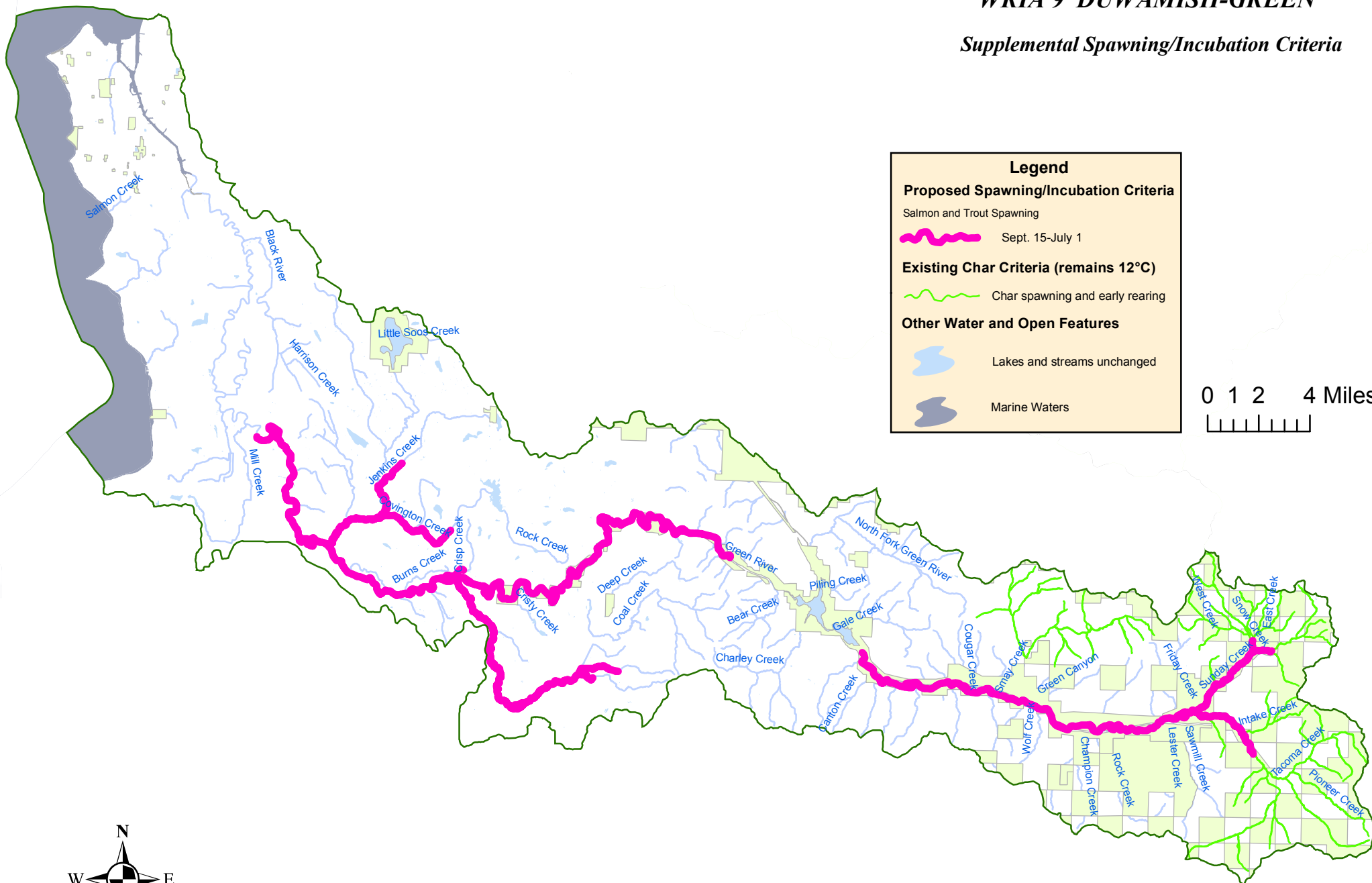
WRIA 8 CEDAR-SAMMAMISH

Supplemental Spawning/Incubation Criteria



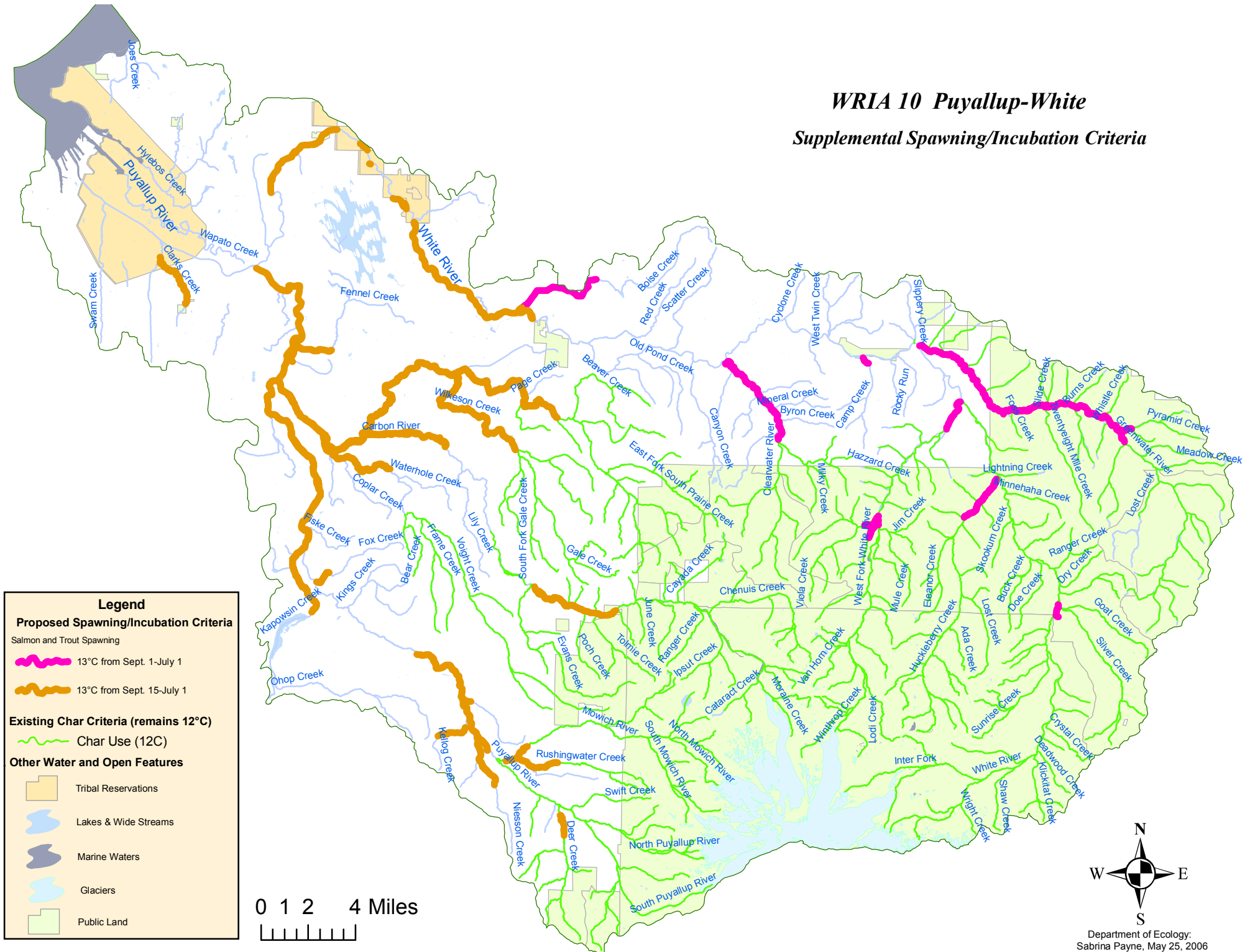
WRIA 9 DUWAMISH-GREEN

Supplemental Spawning/Incubation Criteria



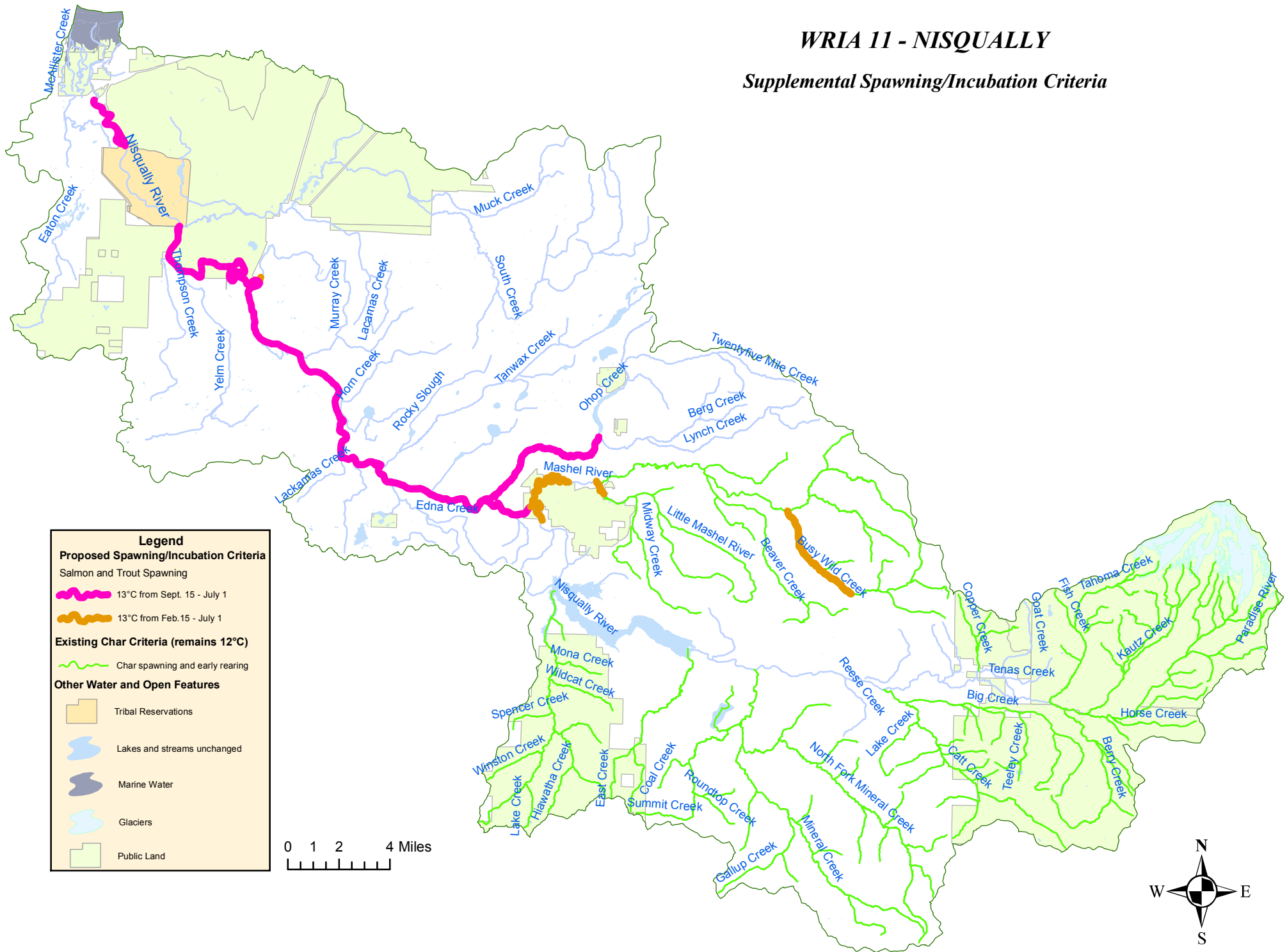
WRIA 10 Puyallup-White

Supplemental Spawning/Incubation Criteria



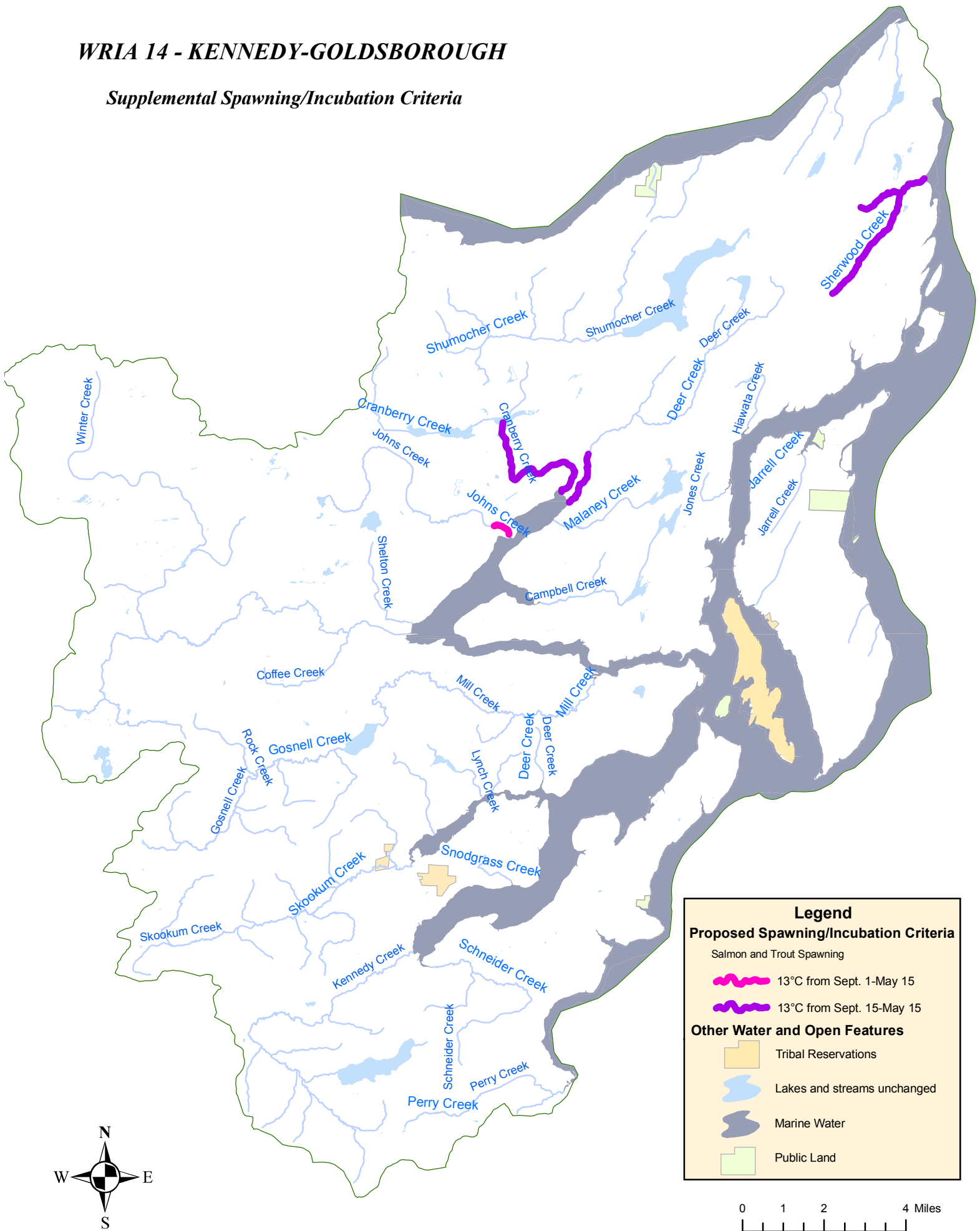
WRIA 11 - NISQUALLY

Supplemental Spawning/Incubation Criteria



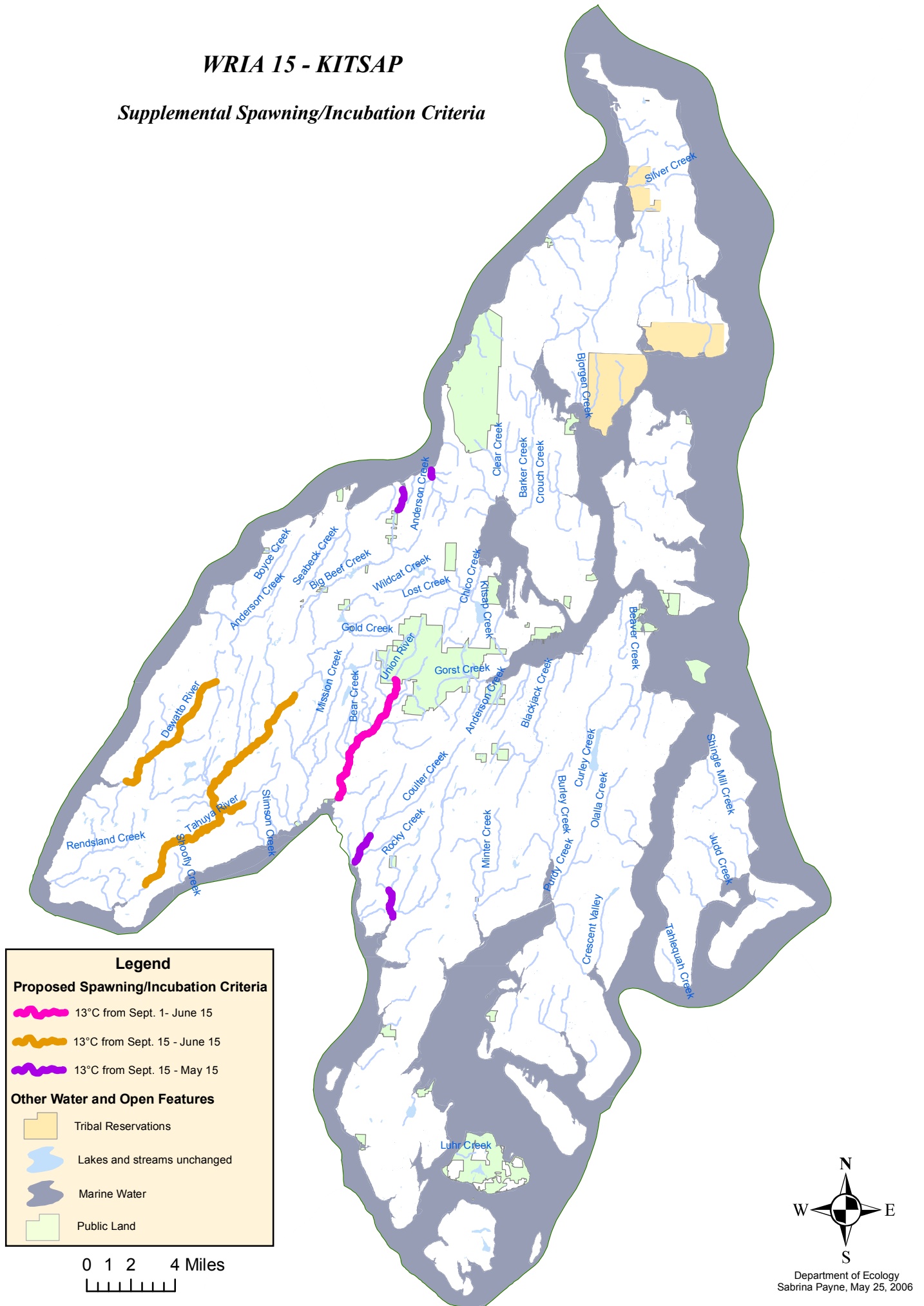
WRIA 14 - KENNEDY-GOLDSBOROUGH

Supplemental Spawning/Incubation Criteria



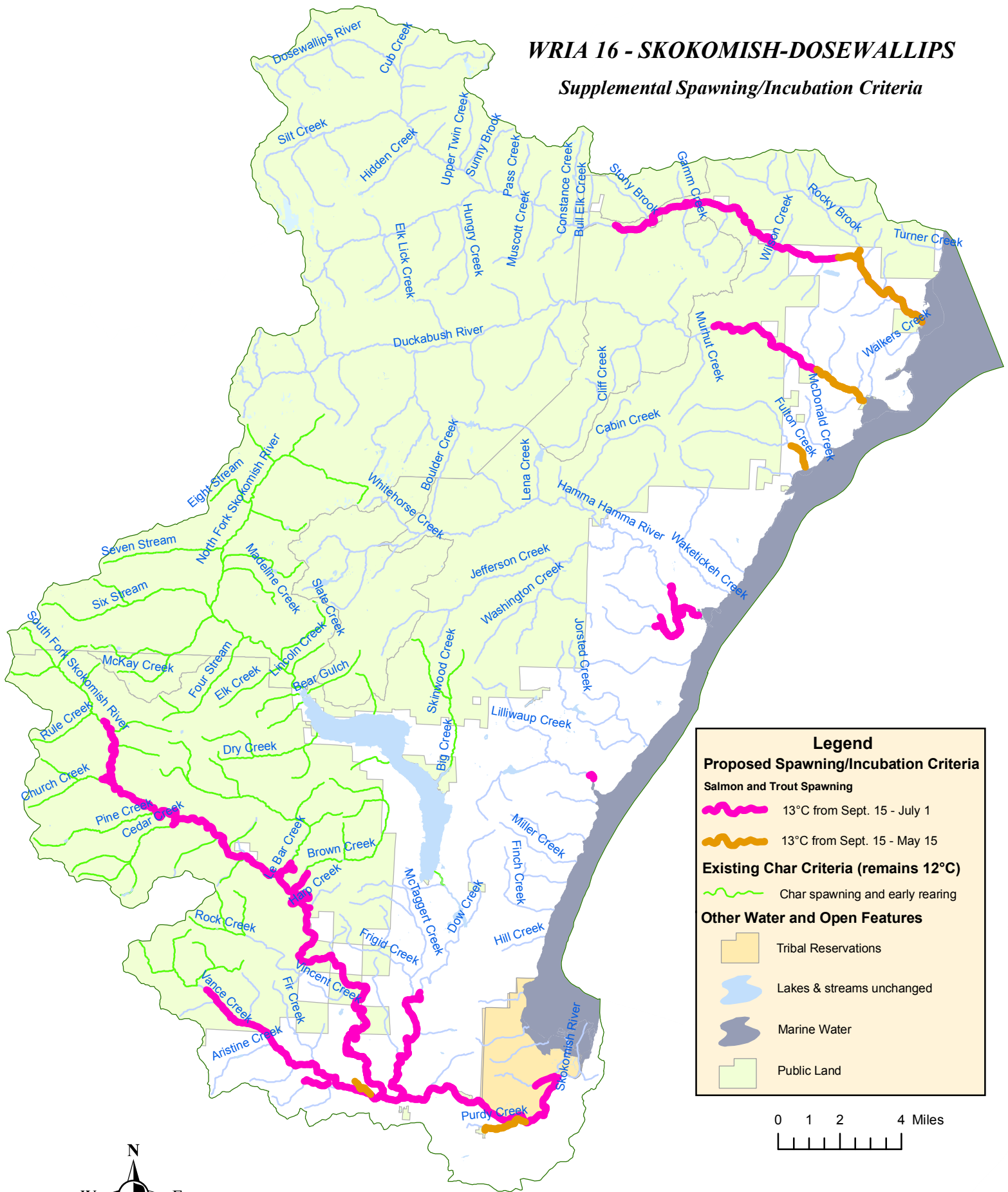
WRIA 15 - KITSAP

Supplemental Spawning/Incubation Criteria



WRIA 16 - SKOKOMISH-DOSEWALLIPS

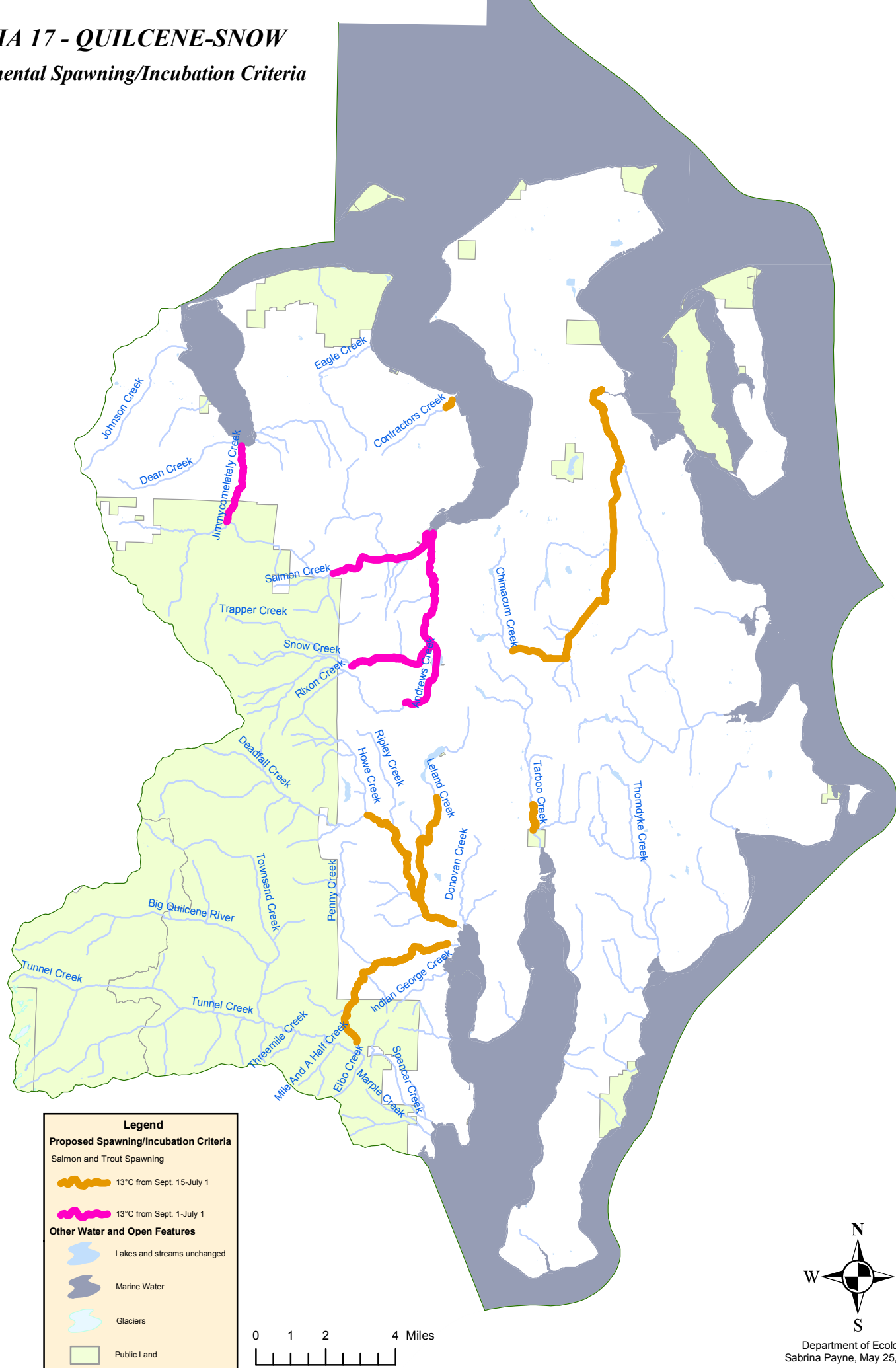
Supplemental Spawning/Incubation Criteria



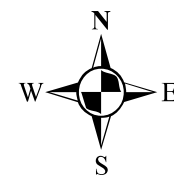
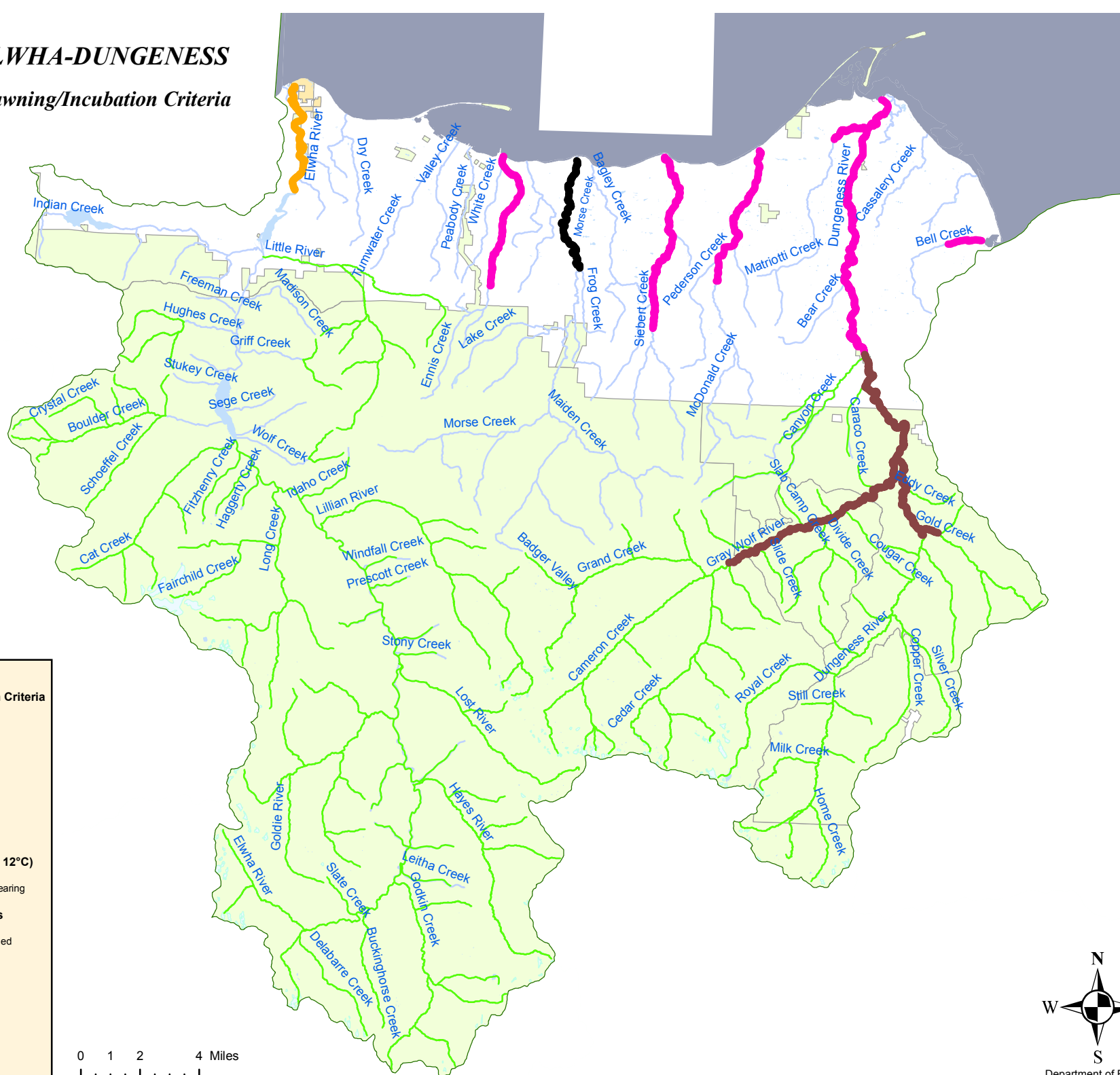
0 1 2 4 Miles



WRIA 17 - QUILCENE-SNOW
Supplemental Spawning/Incubation Criteria

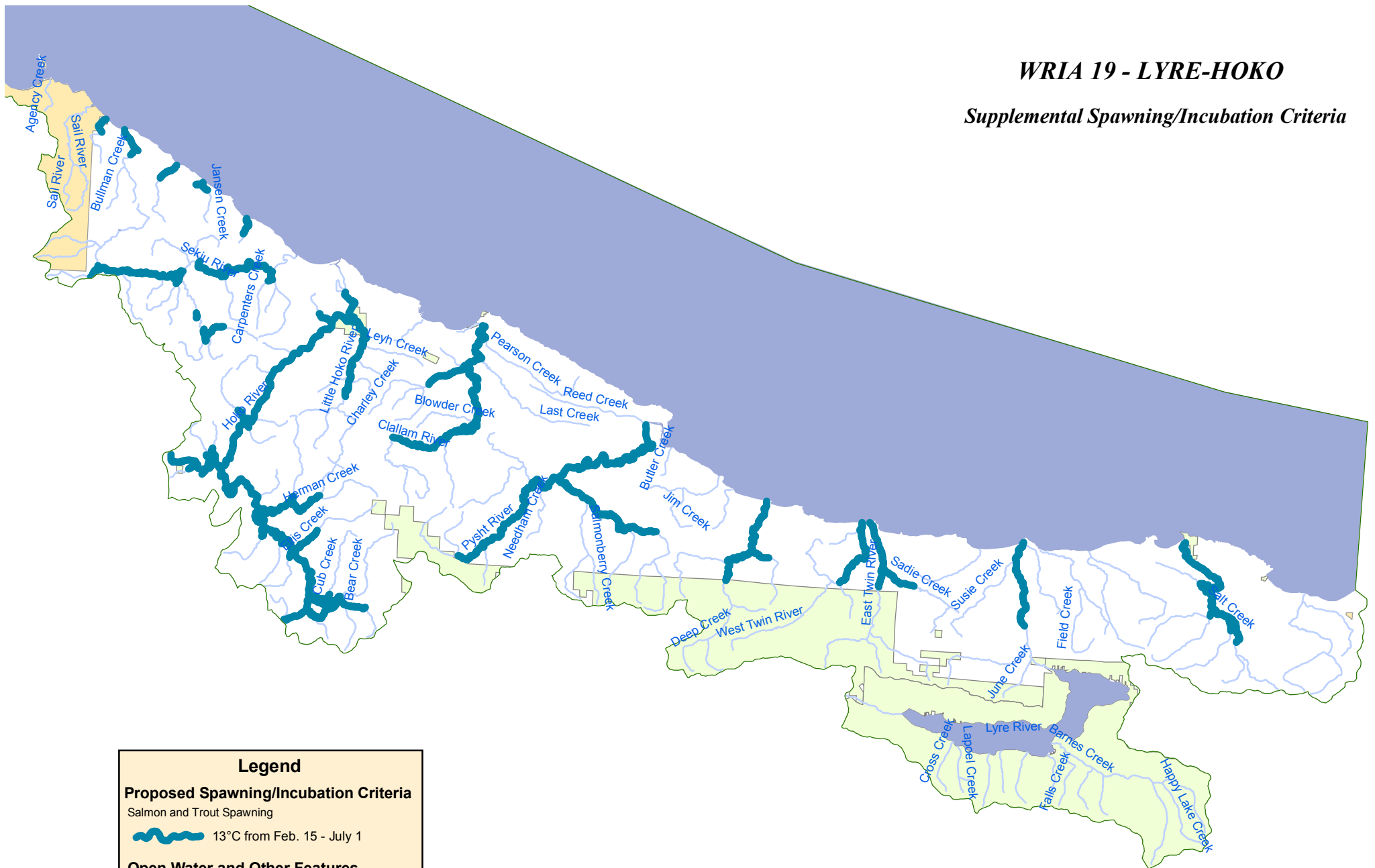


Supplemental Spawning/Incubation Criteria








WRIA 19 - LYRE-HOKO

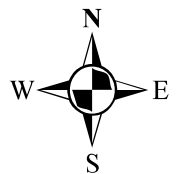
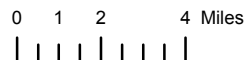
Supplemental Spawning/Incubation Criteria



Legend

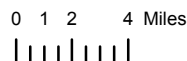
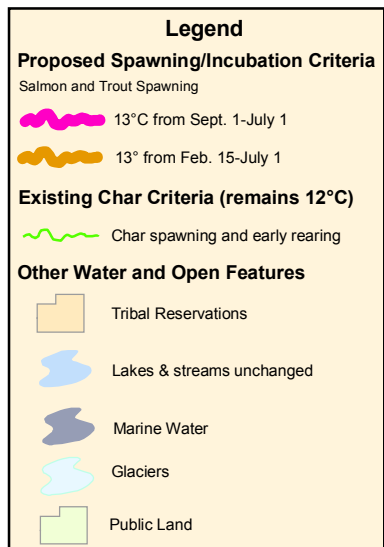
Proposed Spawning/Incubation Criteria
Salmon and Trout Spawning
 13°C from Feb. 15 - July 1

Open Water and Other Features
 Tribal Reservations
 Lakes & streams unchanged
 Marine Water
 Public Land



WRIA 20 SOLEDUCK-HOH

Supplemental Spawning/Incubation Criteria

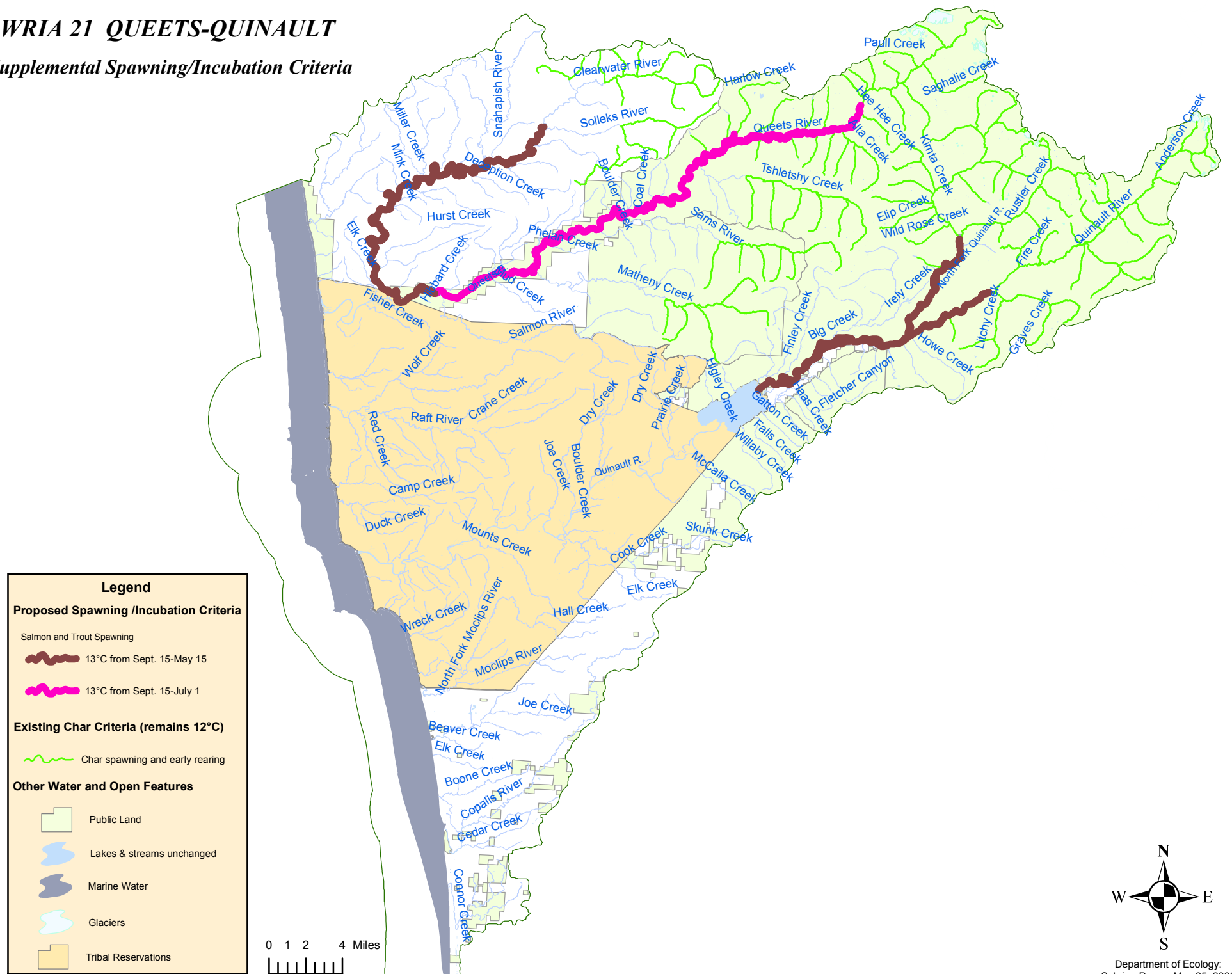


Department of Ecology:
 Sabrina Payne, May 25, 2006



WRIA 21 QUEETS-QUINALT

Supplemental Spawning/Incubation Criteria



WRIA 22 LOWER CHEHALIS

Supplemental Spawning/Incubation Criteria

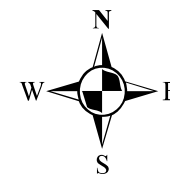
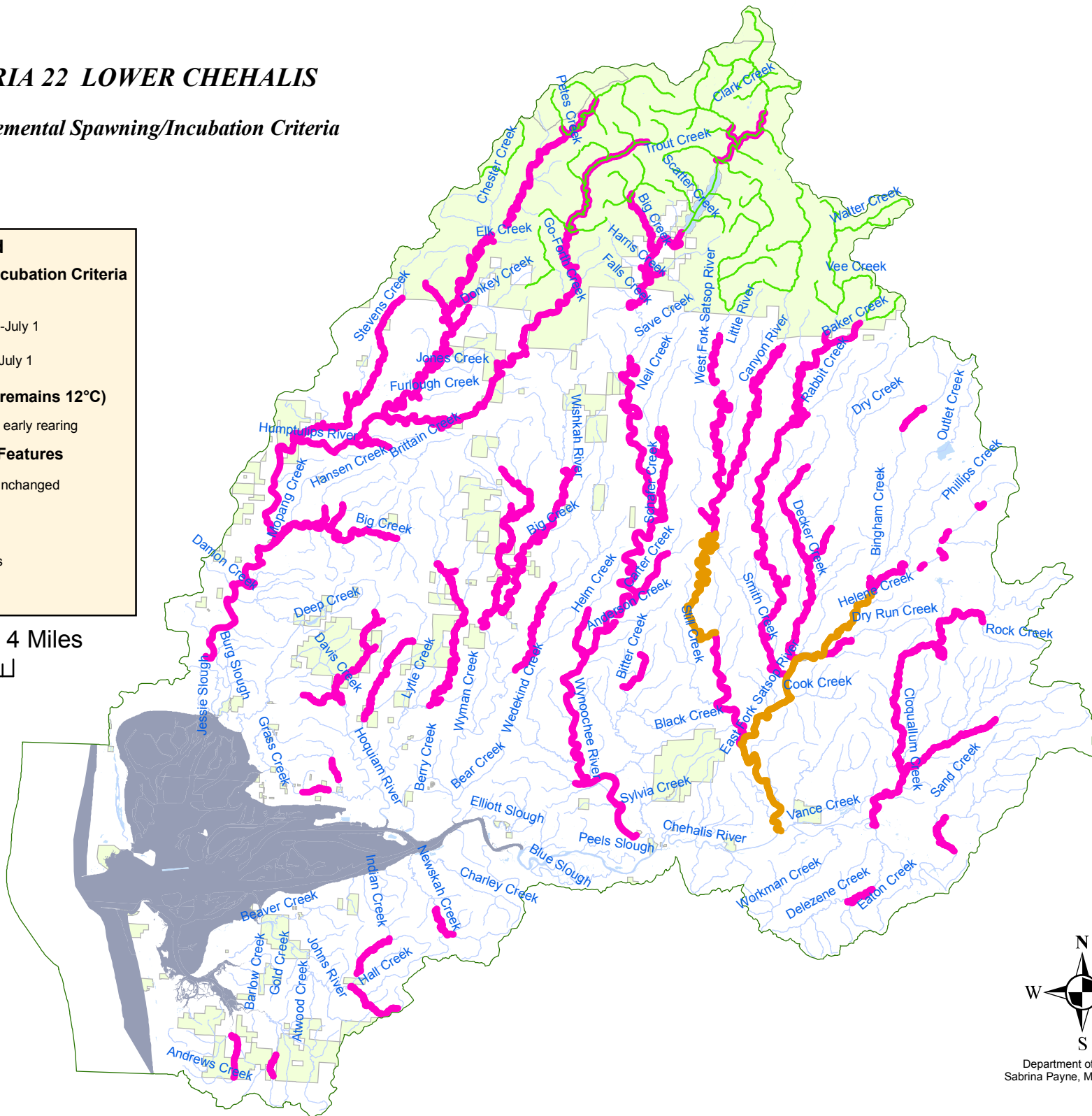
Legend

Proposed Spawning/Incubation Criteria
Salmon and Trout Spawning
 13°C from Sept. 15-July 1
 13°C from Feb. 15-July 1

Existing Char Criteria (remains 12°C)
 Char spawning and early rearing

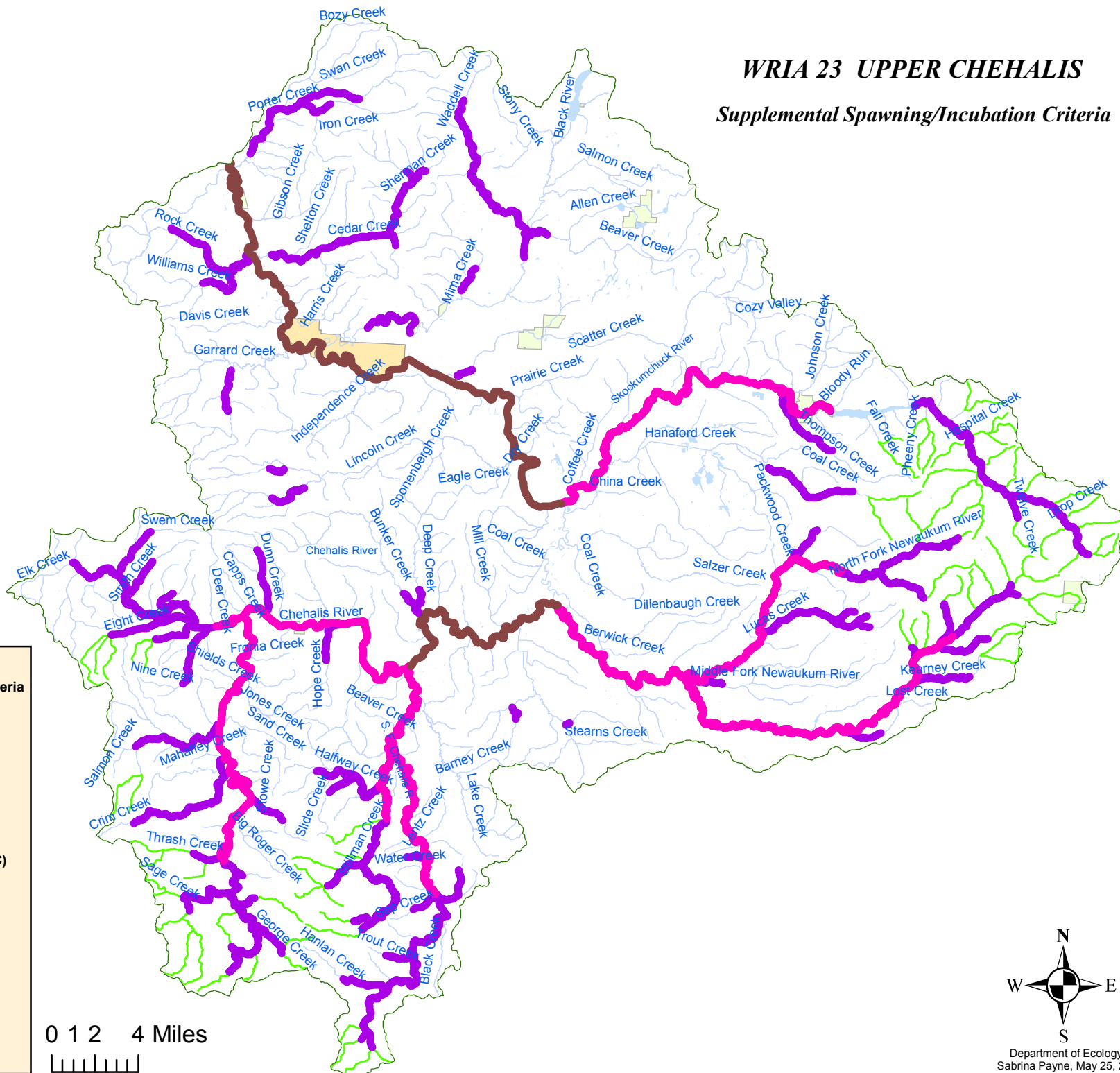
Other Water and Open Features
 Lakes & streams unchanged
 Marine Water
 Tribal Reservations
 Public Land

0 1 2 4 Miles



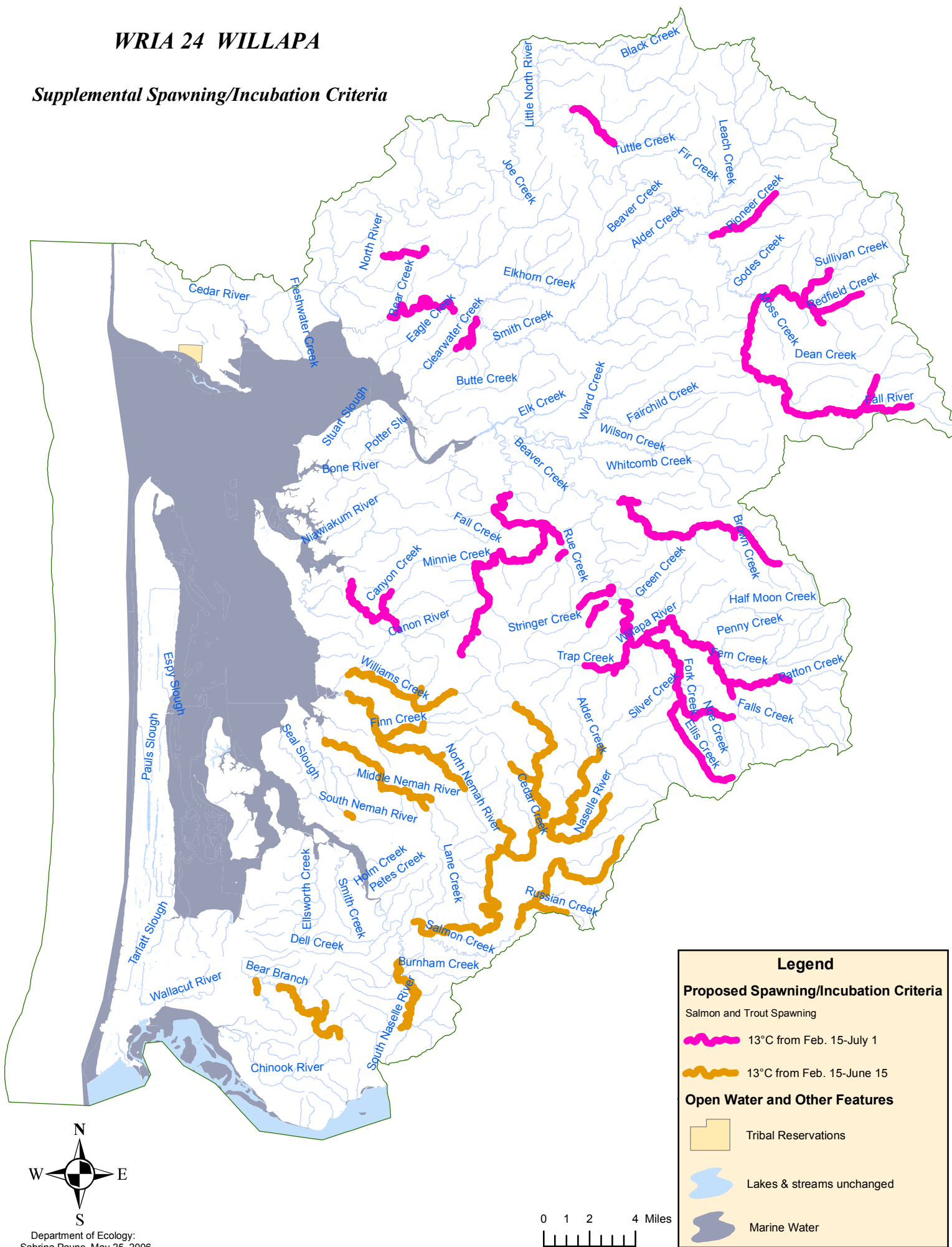
Department of Ecology:
Sabrina Payne, May 25, 2006

Supplemental Spawning/Incubation Criteria



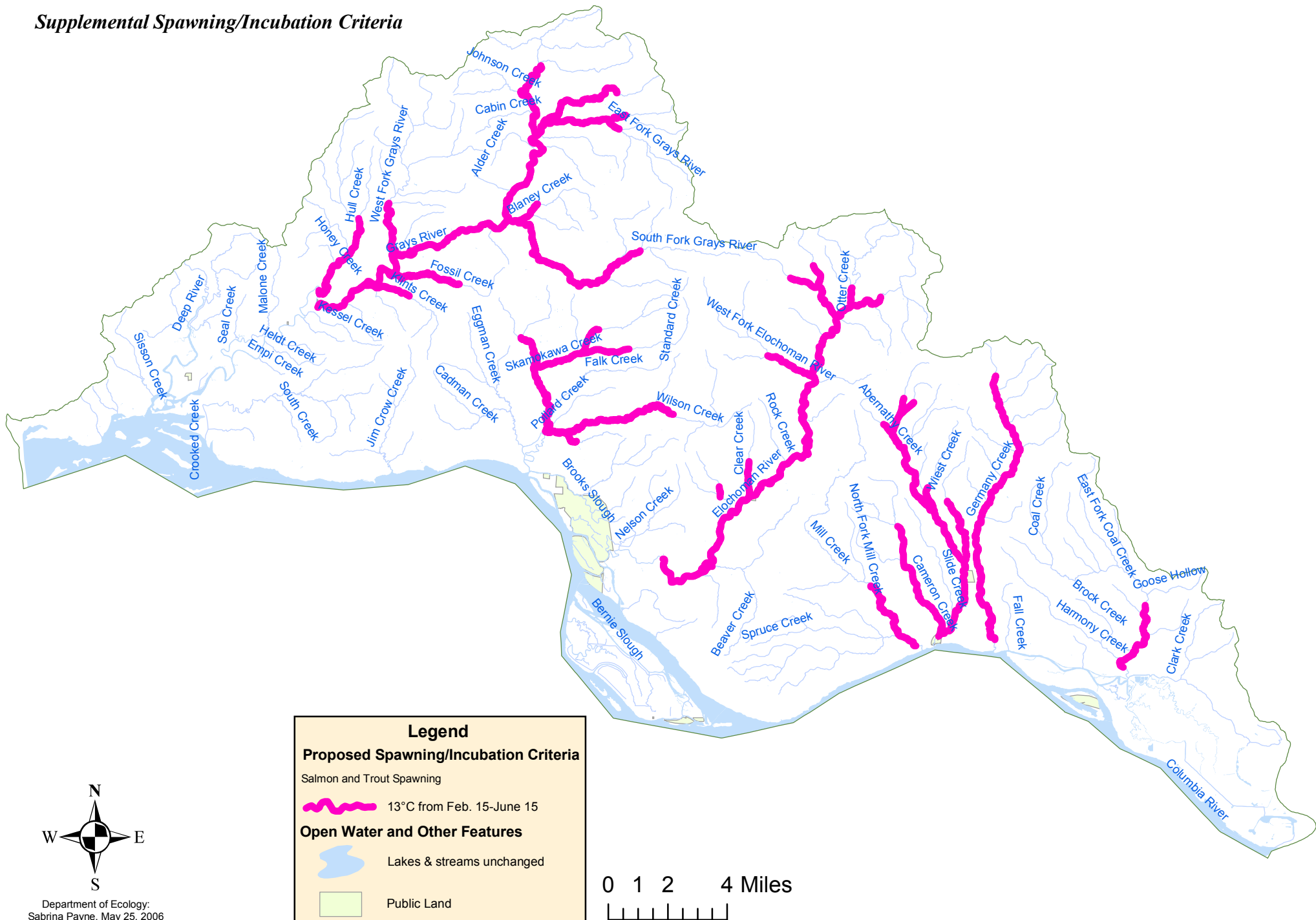
WRIA 24 WILLAPA

Supplemental Spawning/Incubation Criteria



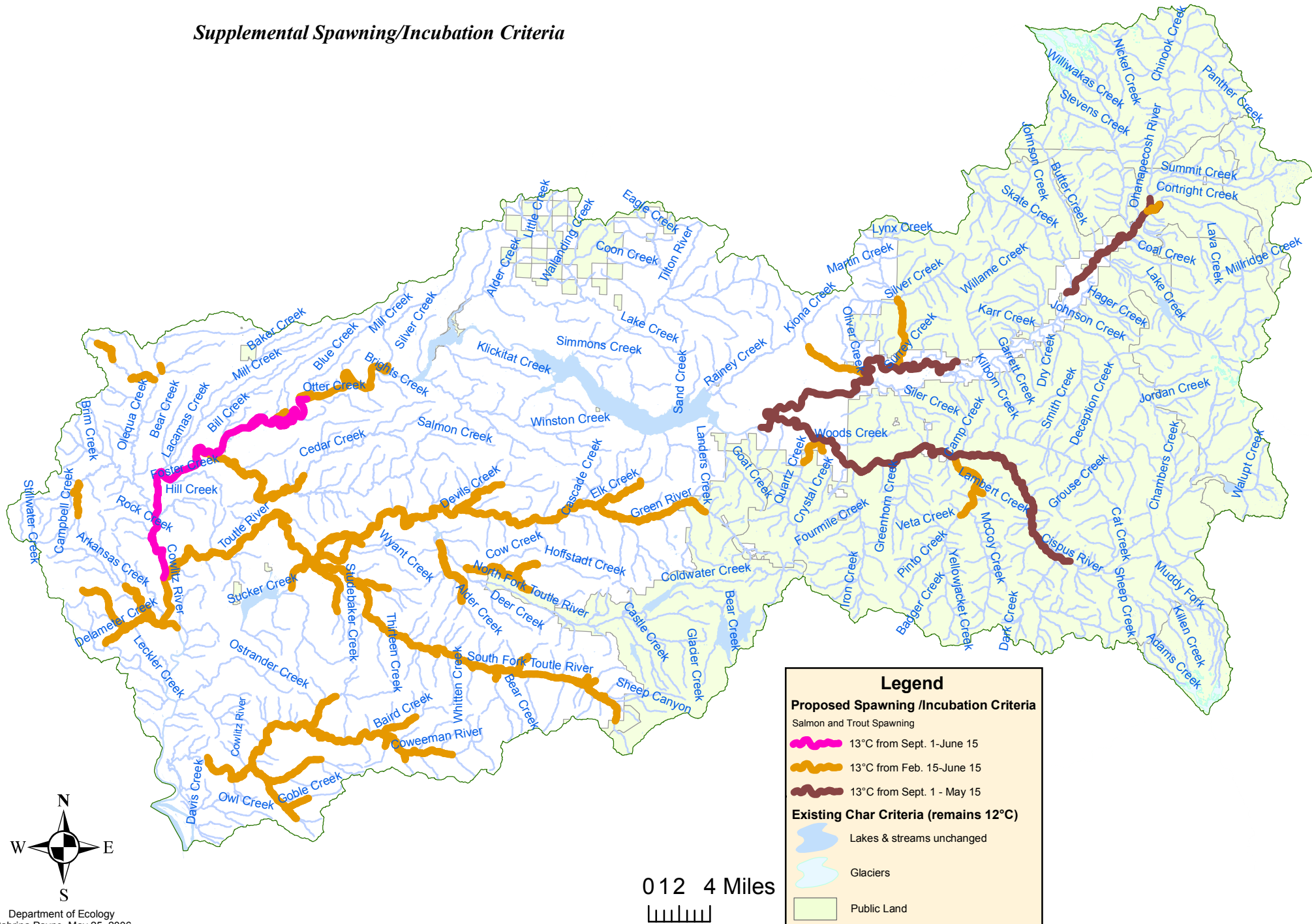
WRIA 25 GRAYS-ELOKOMAN

Supplemental Spawning/Incubation Criteria



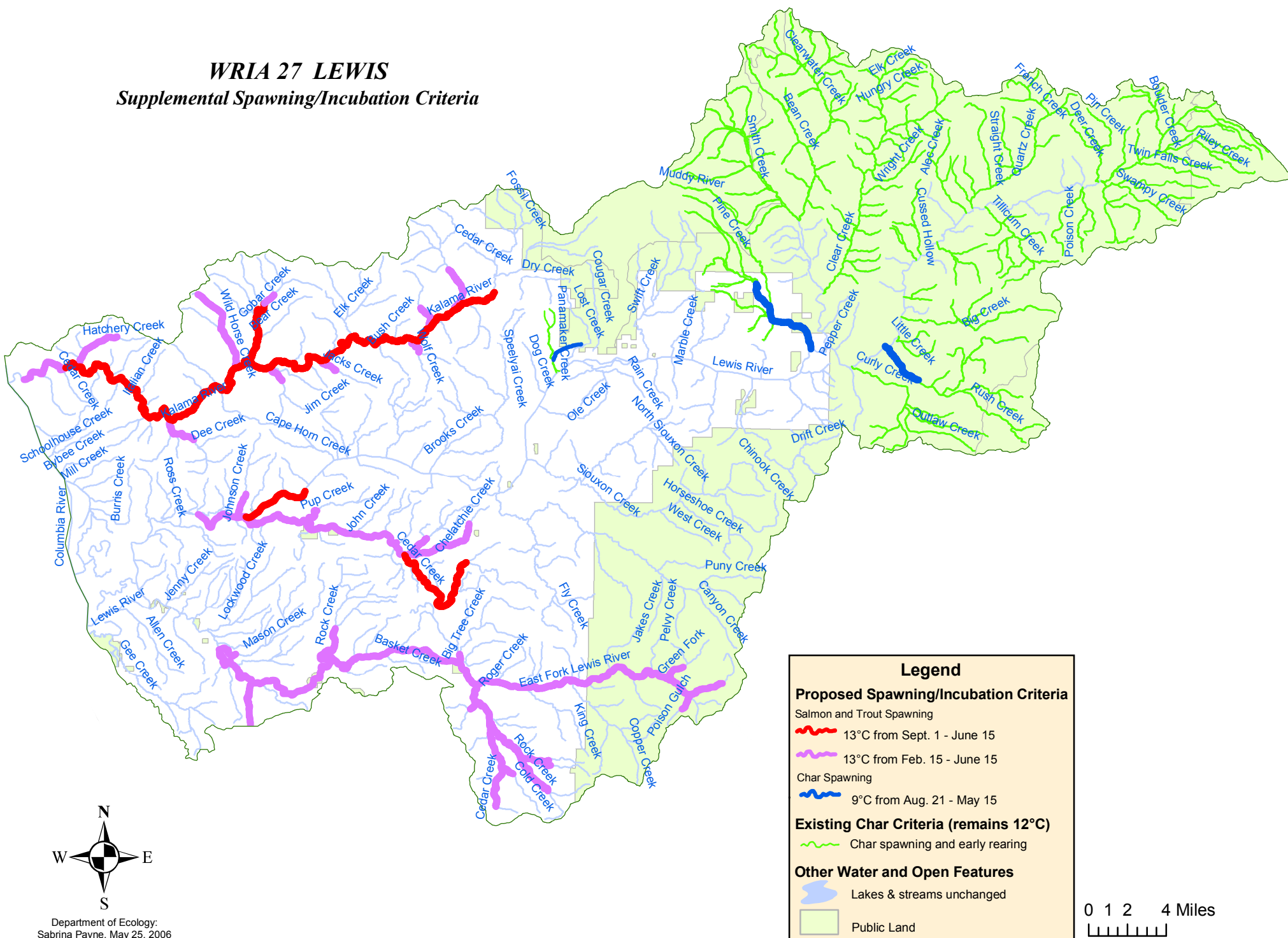
WRIA 26 COWLITZ

Supplemental Spawning/Incubation Criteria



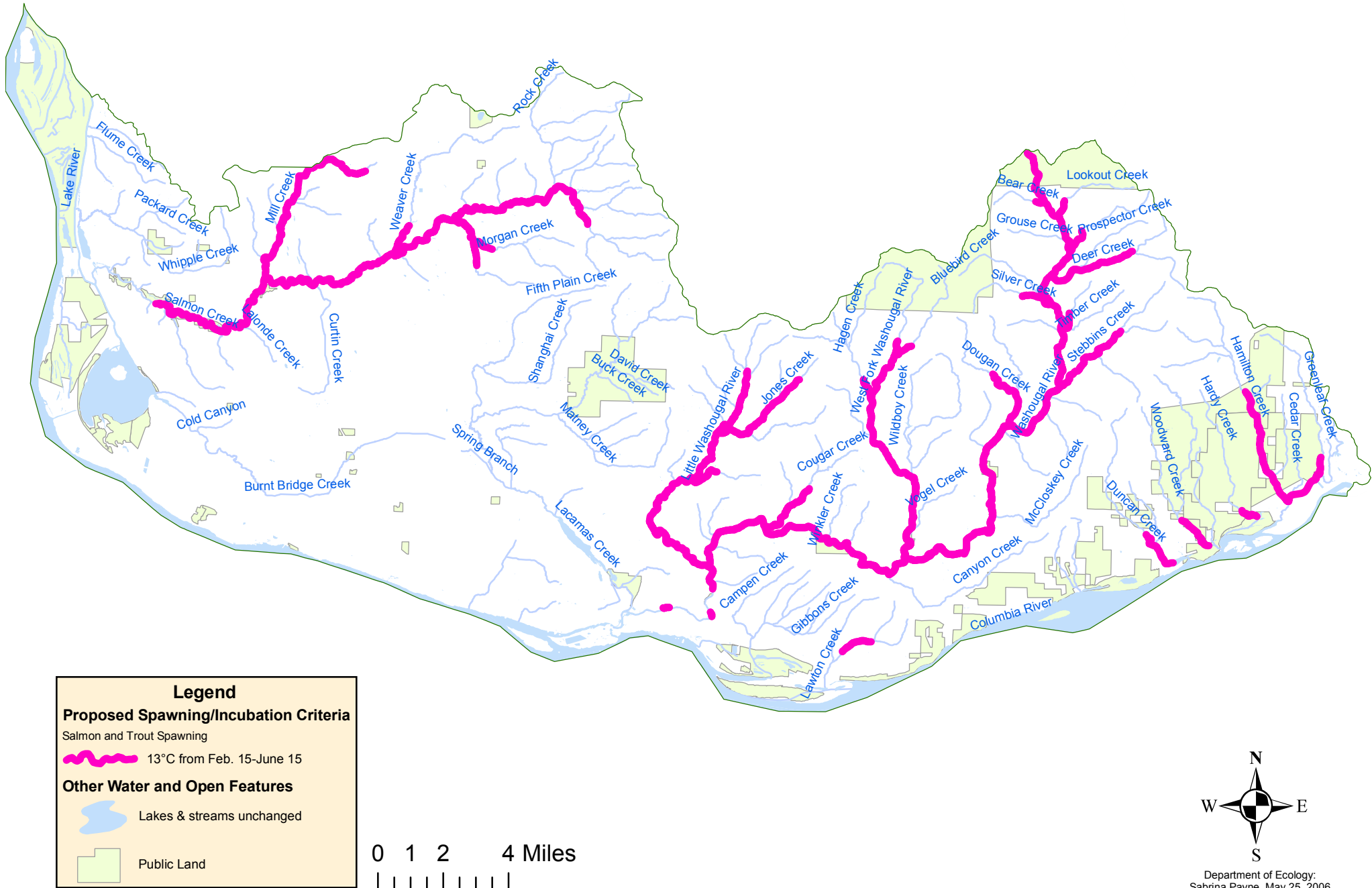
WRIA 27 LEWIS

Supplemental Spawning/Incubation Criteria



WRIA 28 SALMON-WASHOUGAL

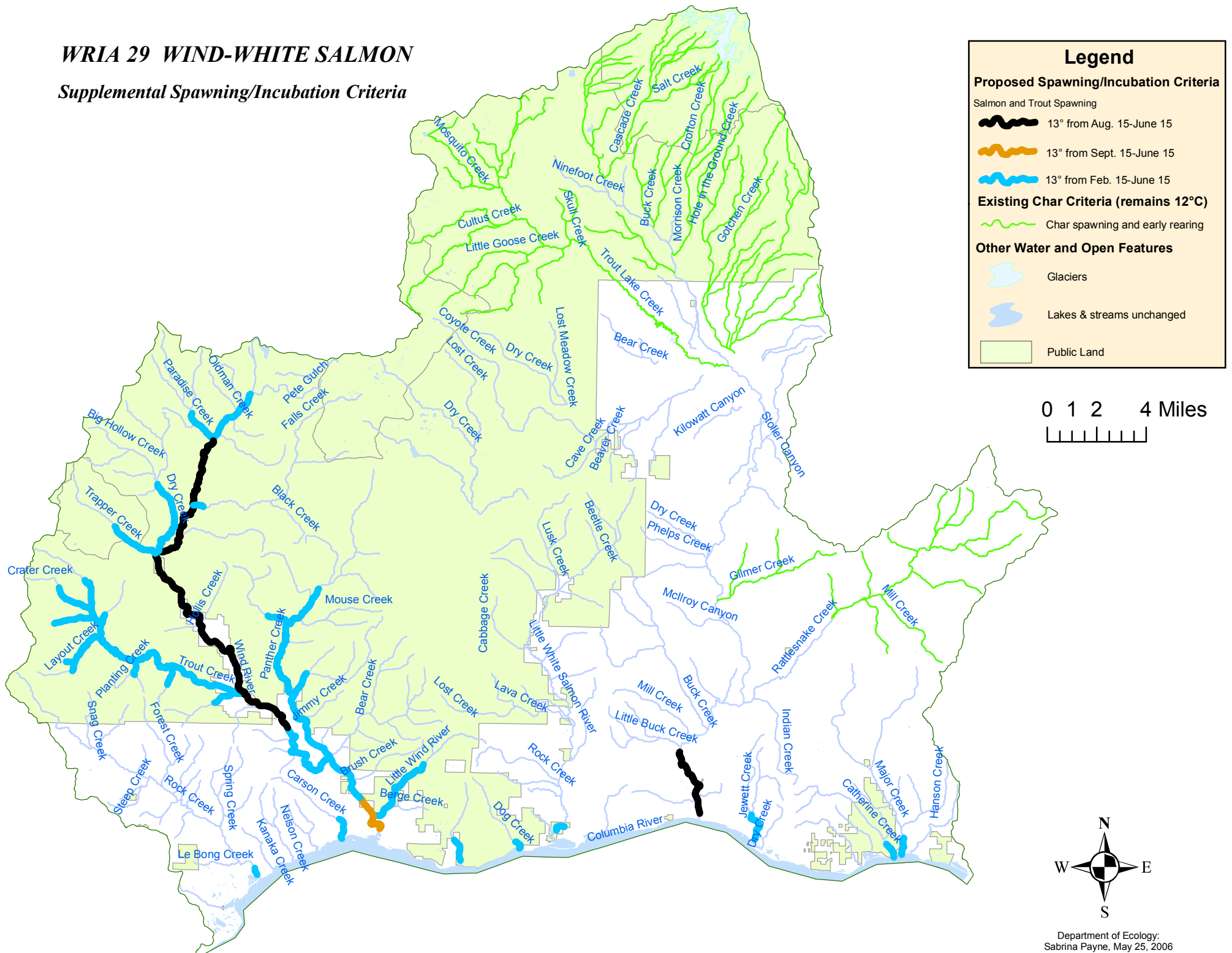
Supplemental Spawning/Incubation Criteria



Department of Ecology:
Sabrina Payne, May 25, 2006

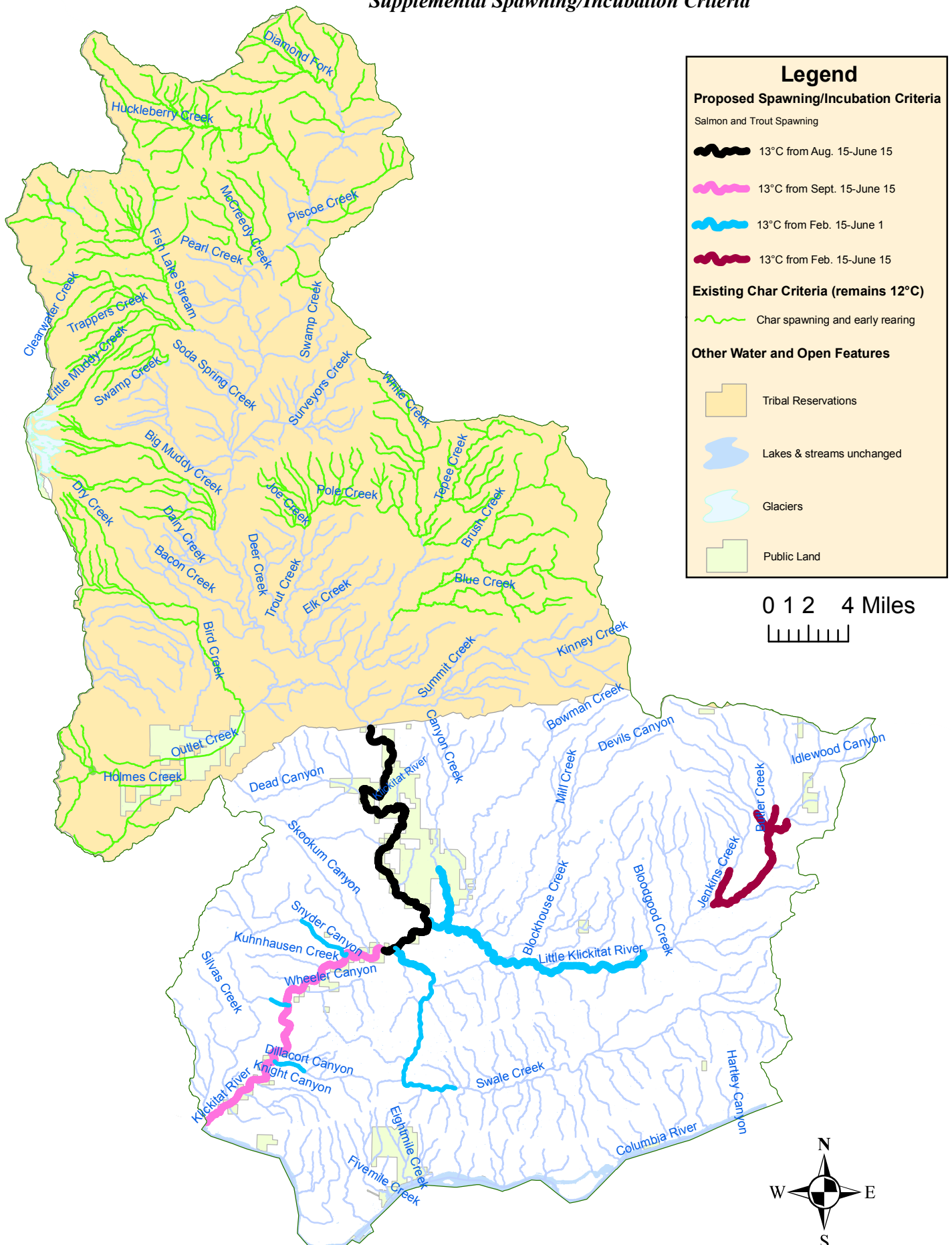
WRIA 29 WIND-WHITE SALMON

Supplemental Spawning/Incubation Criteria



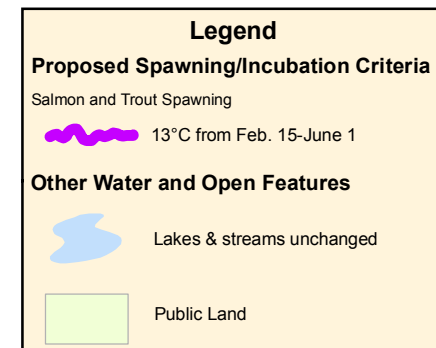
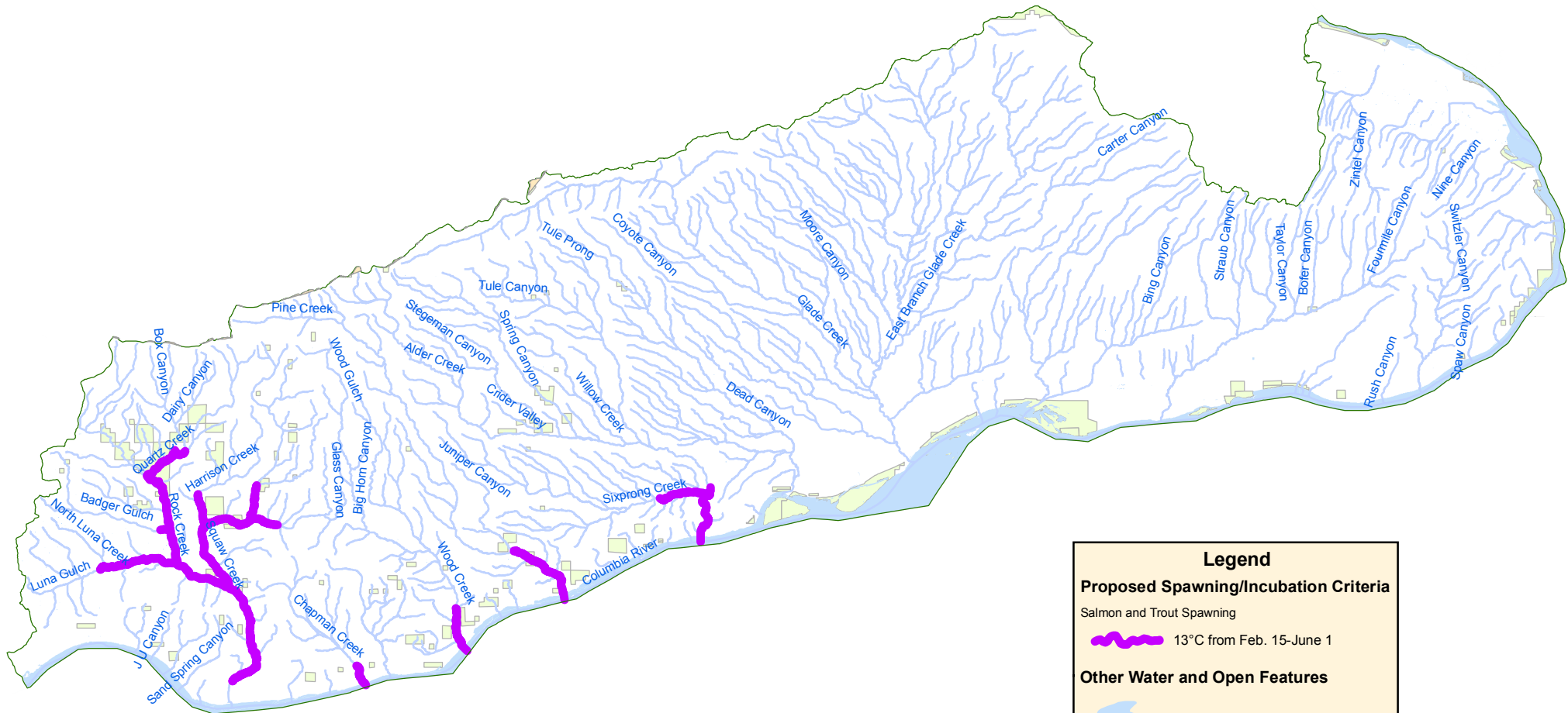
WRIA 30 KLINKITAT

Supplemental Spawning/Incubation Criteria



WRIA 31 ROCK-GLADE

Supplemental Spawning/Incubation Criteria



Department of Ecology
Sabrina Payne, May 25, 2006

0 1 2 4 Miles



WRIA 32 WALLA WALLA

Supplemental Spawning/Incubation Criteria

Legend

Proposed Spawning/Incubation Criteria

Salmon and Trout Spawning

- 13°C from Feb. 15-June 15
- 13°C from Feb. 15-June 1
- 13°C from Sept. 15-June 15

Char Spawning

- 9°C from Aug. 21-May 15
- 9°C from Sept. 1-May 15

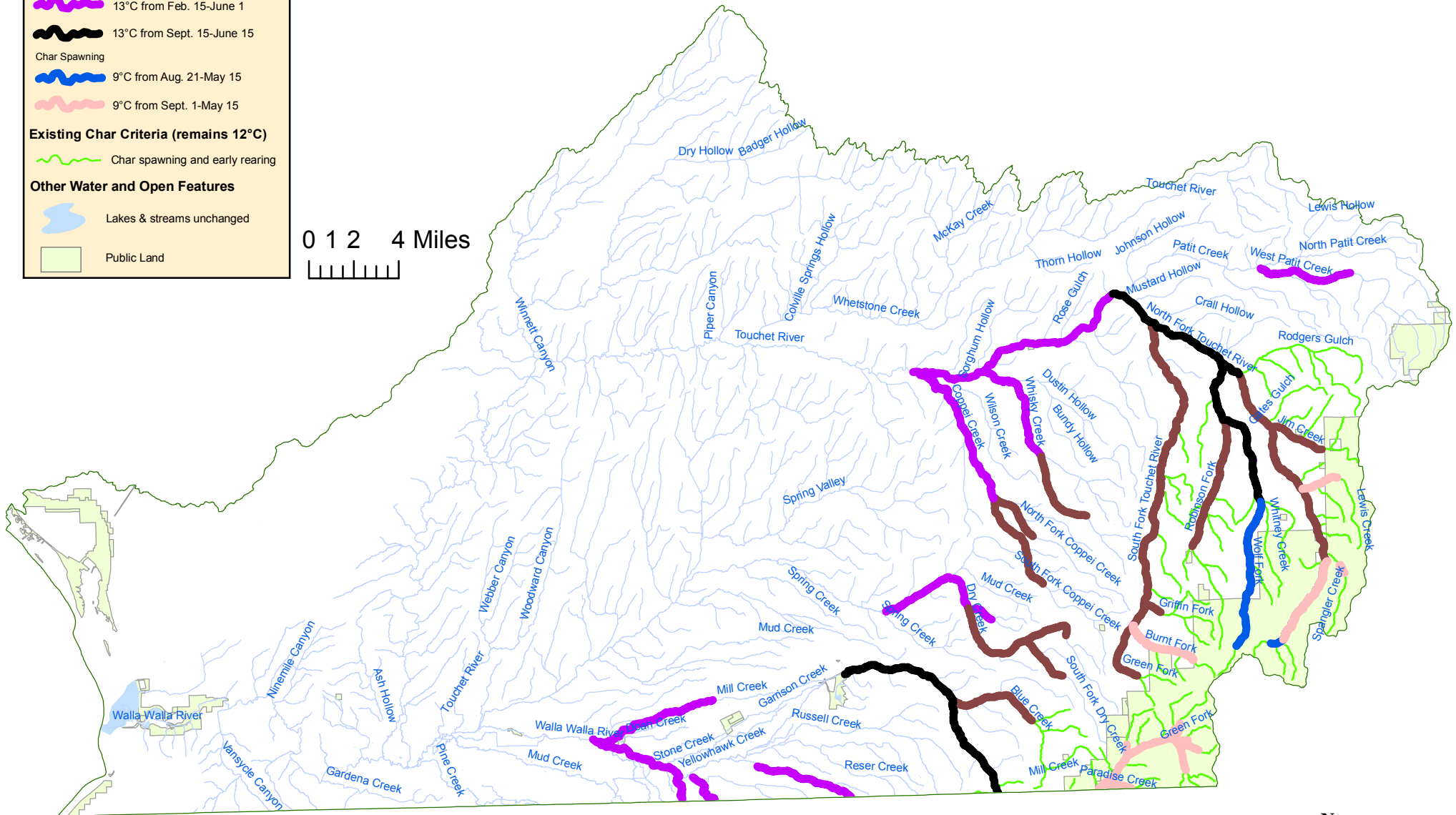
Existing Char Criteria (remains 12°C)

- Char spawning and early rearing

Other Water and Open Features

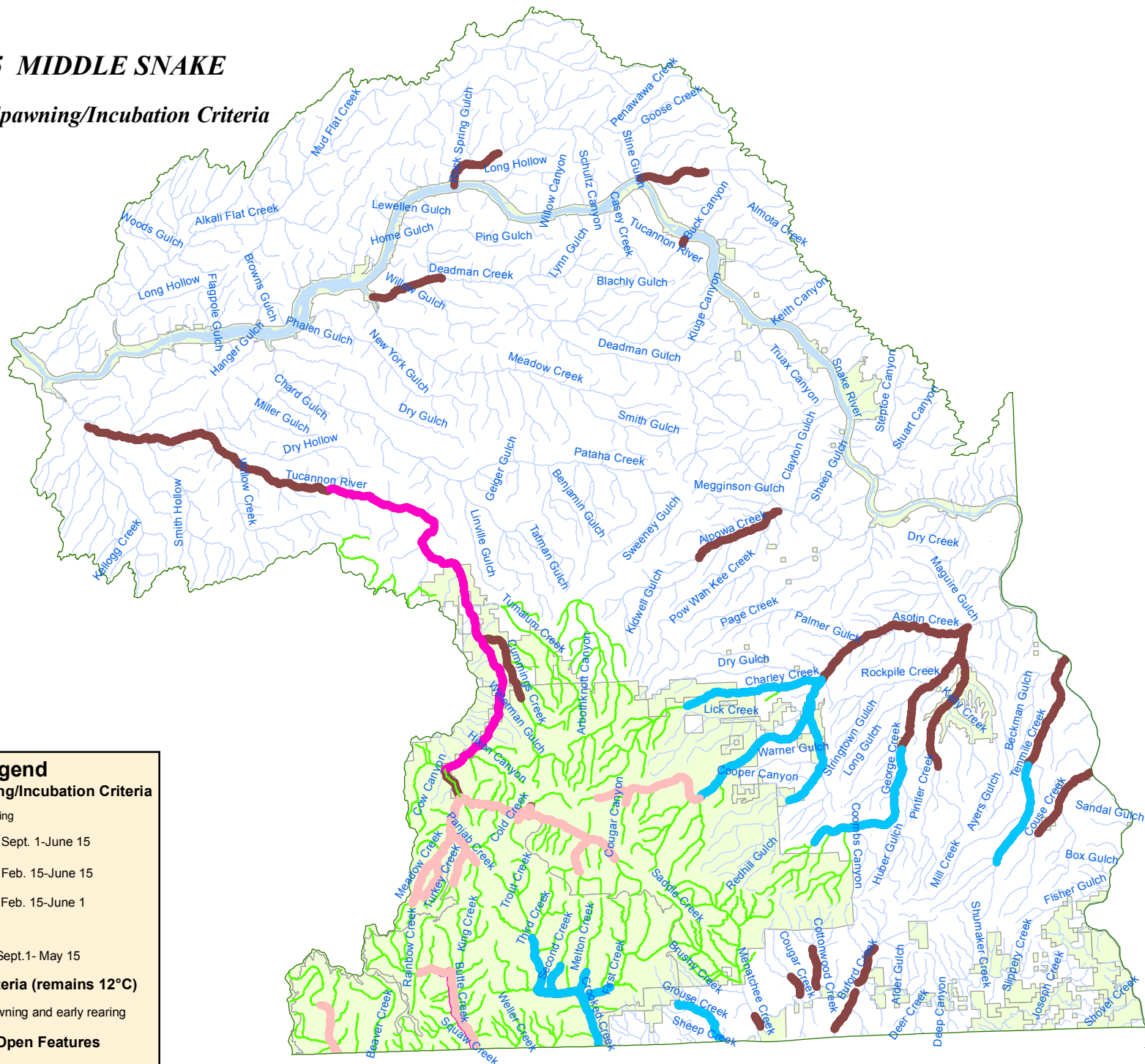
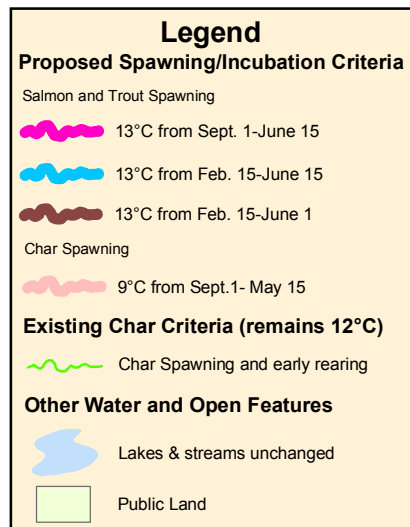
- Lakes & streams unchanged
- Public Land

0 1 2 4 Miles



WRIA 35 MIDDLE SNAKE

Supplemental Spawning/Incubation Criteria



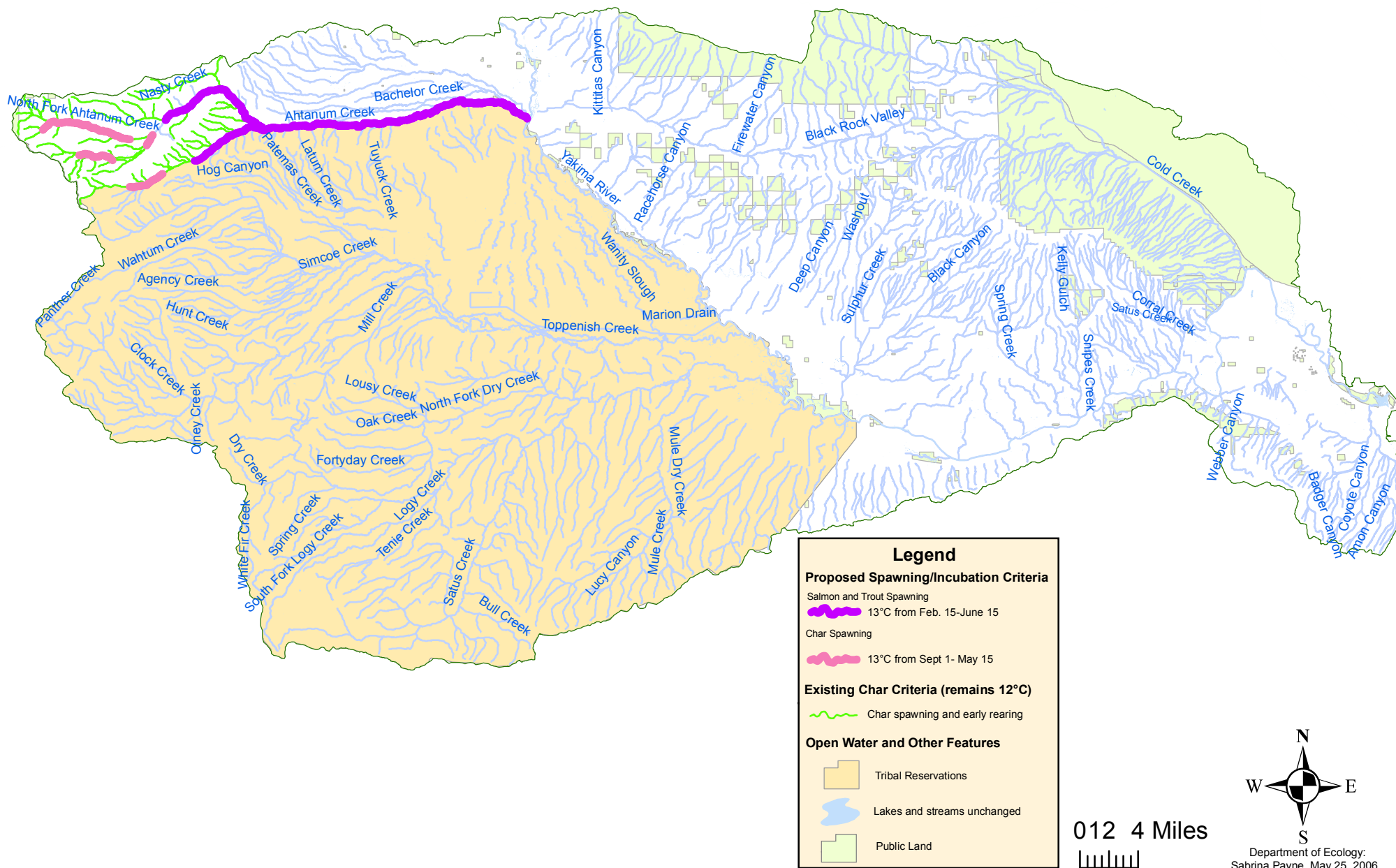
012 4 Miles



Department of Ecology:
Sabrina Payne, May 25, 2006

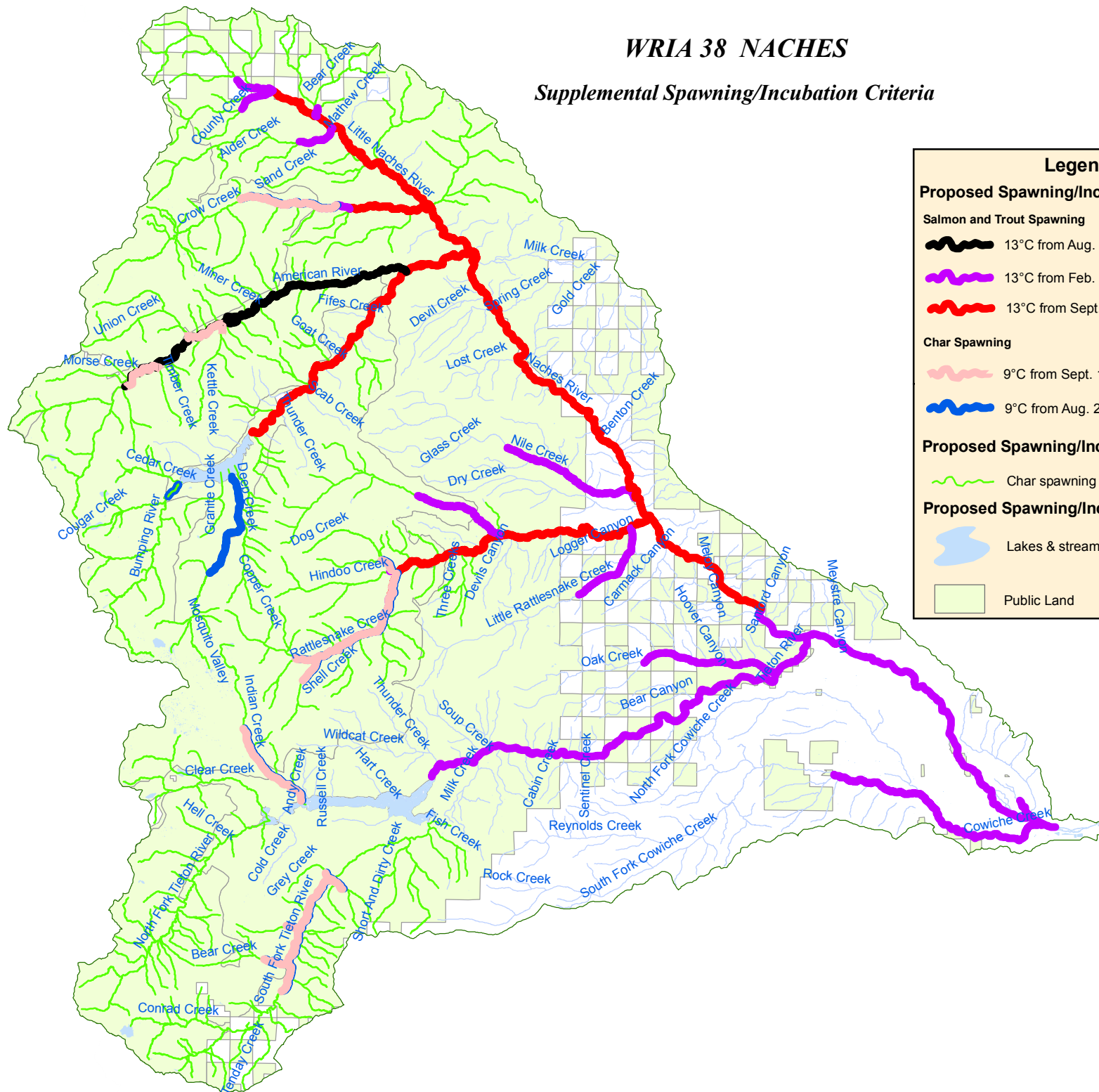
WRIA 37 LOWER YAKIMA

Supplemental Spawning/ Incubation Criteria



WRIA 38 NACHES

Supplemental Spawning/Incubation Criteria



Legend

Proposed Spawning/Incubation Criteria

Salmon and Trout Spawning

- 13°C from Aug. 1-June 15
- 13°C from Feb. 15-June 15
- 13°C from Sept. 15-June 15

Char Spawning

- 9°C from Sept. 1- May 15
- 9°C from Aug. 21- May 15

Proposed Spawning/Incubation Criteria

- Char spawning and early rearing

Proposed Spawning/Incubation Criteria

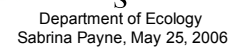
- Lakes & streams unchanged

Public Land

0 1 2 4 Miles

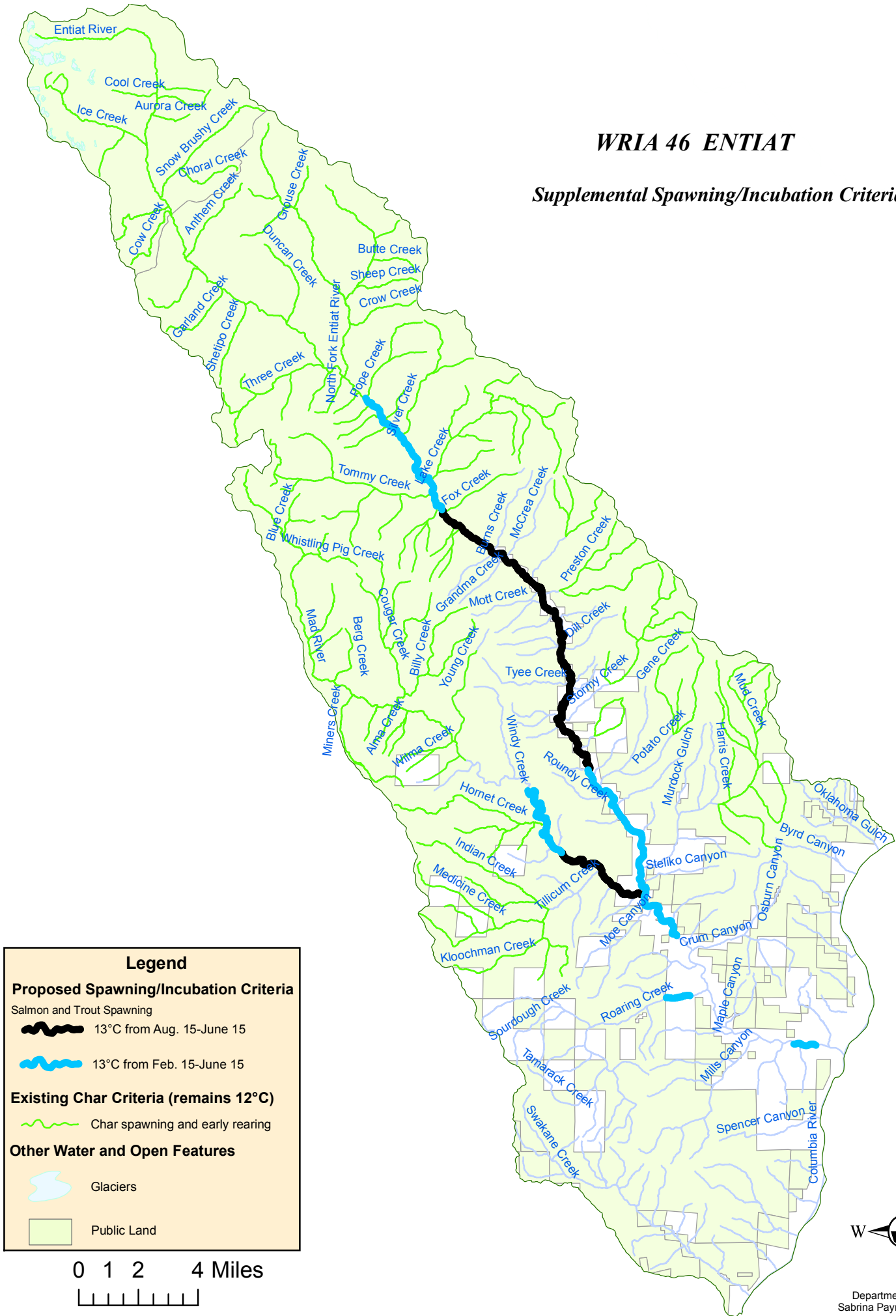


Supplemental Spawning/Incubation Criteria



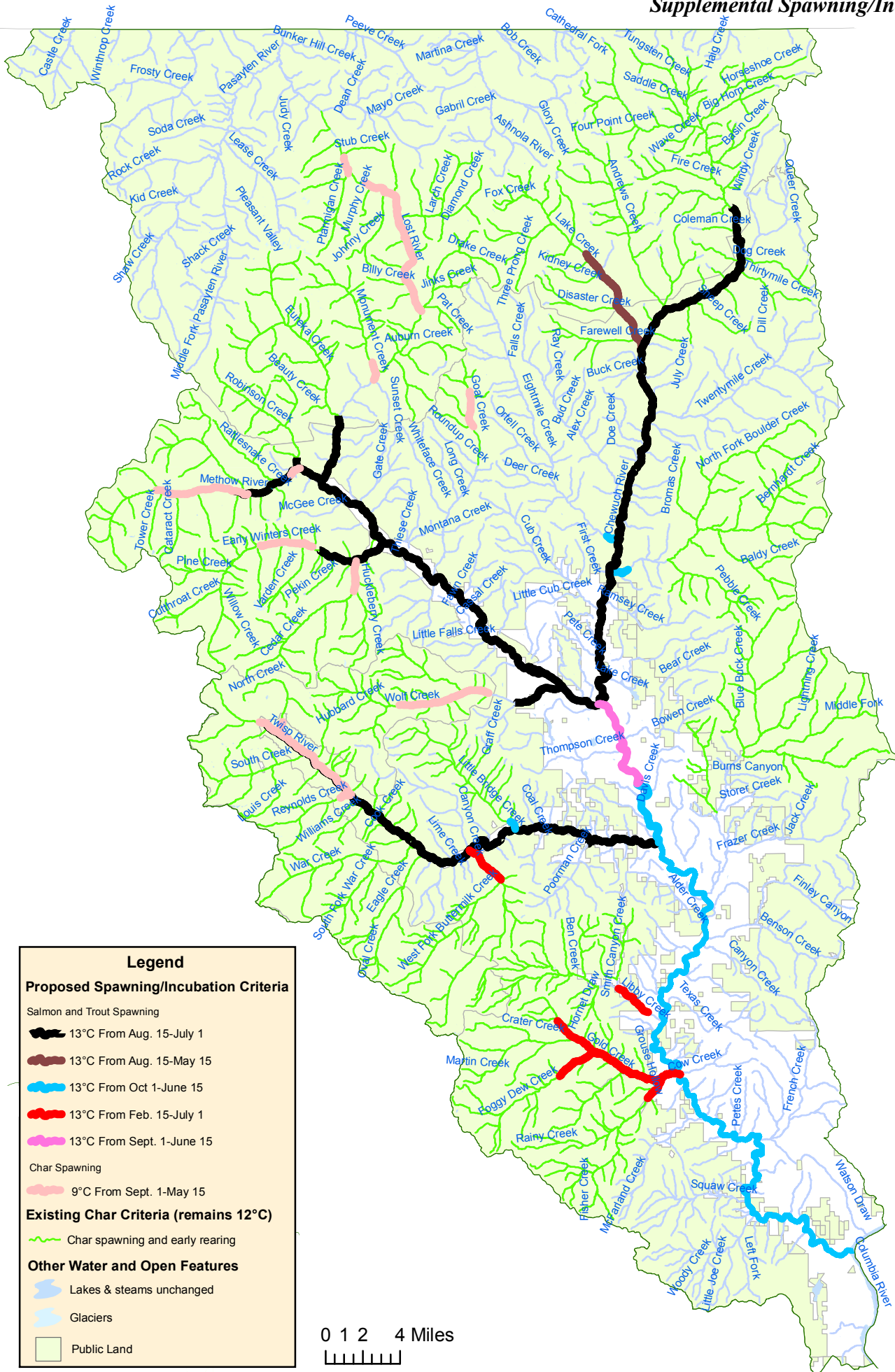
WRIA 46 ENTIAT

Supplemental Spawning/Incubation Criteria



WRIA 48 METHOW

Supplemental Spawning/Incubation Criteria



WRIA 49 OKANOGAN

Supplemental Spawning/Incubation Criteria

